

# ***ENGINEERED PERFORMANCE STANDARDS***

**BOOK NUMBER - 04**

## **HVAC**



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EPS SUPPLEMENTAL DATA  
CRAFT DELAY ALLOWANCE, JOB PREPARATION

CRAFT	JOB PREP	CRAFT DELAY ALLOW.	
		SINGLE	MULTI
BOILER WORK	.4	23	33
CARPENTRY - GENERAL	.3	15	20
CARPENTRY - ROOFING	.6	20	25
COOLING/VENT/REFER.	.3	15	18
ELECTRICAL & ELECTRONIC	.3	16	20
HAZARDOUS WORK (ADD TO JP)	.2	--	--
HEATING	.3	17	21
JANITORIAL	.3	11	13
MACHINE SHOP	.3	23	24
MACHINE REPAIR	.4	28	36
MASONRY - GENERAL	.4	15	20
- W/ PURCH. CONC.	.4	19	22
MOVING AND RIGGING	.3	28	40
PAINT - GENERAL	.2	16	17
- SPRAY	.2	17	19
PEST CONTROL	.3	14	17
PIPEFITTING - INTERIOR	.3	15	20
- EXTERIOR	.3	18	25
PLUMBING - INTERIOR	.3	17	20
- EXTERIOR	.3	15	20
ROADS & GRNDS - GENERAL	.3	16	20
- LABORERS	.3	15	20
SHEETMETAL	.3	15	20
STRUC IRON & WELD - FIELD	.3	17	20
- SHOP	.6	17	22
TRACKAGE	.4	--	22
WHARFBUILDING	.5	24	32

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: Air Conditioning Units - Annual Maintenance
: Tasks Include:
: 1- Shell and water      : drain & fill, remove & install end
:   cooled condensers     plates, punch & clean tubes
:                           fabricate & install gaskets.CONT'D
: 2- All other units      : clean, inspect, adjust, lubricate
:                           bearings, change oil and filter as
:                           appropriate.
: NOTE: For seasonal and continuous operating systems.
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#### TASK TIME STANDARDS LISTING

VT 051	Air handler,	heating and cooling	3 to 24 tons
VT 055	Air handler,	heating and cooling	25 to 99 tons
VT 058	Air handler,	heating and cooling	100 to 250 tons
VT 049	Air handler,	cooling only	3 to 24 tons
VT 052	Air handler,	cooling only	25 to 99 tons
VT 057	Air handler,	cooling only	100 to 250 tons
VT 050	Compressor		3 to 24 tons
VT 053	Compressor		over 100 tons
VT 025	Condenser,	shell & tube water cooled	100 to 200 tons
VT 028	Condenser,	shell & tube water cooled	300 to 400 tons
VT 066	Condenser,	shell & tube water cooled	700 to 800 tons
VT 056	Condenser,	evaporative	3 to 9 tons
VT 061	Condenser,	evaporative	25 to 49 tons
VT 063	Condenser,	evaporative	100 to 199 tons
VT 062	Condenser,	air-cooled	3 to 24 tons
VT 064	Condenser,	air-cooled	25 to 49 tons
VT 054	Cooling tower,	wood	25 to 99 tons
VT 059	Cooling tower,	wood	800 to 900 tons
VT 056	Cooling tower,	metal	3 to 9 tons
VT 061	Cooling tower,	metal	25 to 49 tons
VT 063	Cooling tower,	metal	100 to 199 tons
VT 046	Package-type,	self-contained	3 to 49 tons
VT 043	Window unit		all sizes

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 051 Clean, inspect, adjust & lubricate air handling unit (3-24 ton)  
Includes: remove and install panels; clean centrifugal (squirrel cage) fan, cooling and heating coils and air plenum; inspect fan and motor; adjust pulleys; lubricate fan bearings.  
  
001.67722 hours per airhandling unit to inspect
- VT 055 Clean, inspect, adjust & lubricate air handling unit (25-99 ton)  
Includes: remove and install panels; clean centrifugal (squirrel cage) fan, cooling and heating coils and air plenum; inspect fan and motor; adjust fan motor pulleys and lubricate fan bearings.  
  
004.31831 hours per airhandling units to inspect
- VT 058 Clean, inspect, adjust & lubricate airhandling unit (100-250ton)  
Includes: remove and install-panels & screws ; clean centrifugal (squirrel cage) fan, cooling and heating coils and air plenum; sensory-inspect fan and motor; adjust fan motor pulley; lubricate fan bearings.  
  
010.43121 hours per airhandling units to clean
- VT 049 Clean, inspect, adjust and lubricate air handling unit (3-24 ton).  
Includes: rmv & instl- panels & screws; clean- coils, plenum, squirrel cage fan, adjust motor pulleys; lubricate- bearings; sensory inspect- fan & motor.  
  
001.37223 hours per Air handling units to inspect
- VT 052 Clean, inspect, adjust & lubricate air handling unit (25-99 ton)  
Includes: remove and install panels; clean centrifugal (squirrel cage) fan, cooling coils and plenum; inspect fan and motor; adjust pulley; lubricate fan bearings.  
  
003.08531 hours per airhandling units to inspect
- VT 057 Clean, inspect, adjust & lubricate airhandling unit(100-250 ton)  
Includes: rmv & instl - panels & screws; clean- squirrel cage fan & motor, cooling coils & air plenum; sensory inspect fan & motor; adjust fan motor pulley; lubricate fan bearings.  
  
006.86921 hours per airhandling units to inspect
- VT 050 Clean, inspect, adjust, lubricate and change oil in compressor in open (central compressing) airconditioning system (3-24 ton)  
Includes; wipe compressor and motor; inspect for leaks and proper operation; adjust belts; lubricate motor bearing; drain and fill crankcase; and charge system.  
  
001.90105 hours per airconditioner systems to inspect

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 053 Clean, inspect, adjust, lubricate & change oil in compressor in open (central compression) air conditioning system(over 100 ton  
Includes: wipe compressor & motor; inspect for leaks & safety devices; adjust motor alignment; lubricate motor bearings; drain & fill crankcase; charge system; & remove & install dryer.

003.85387 hours per airconditioner systems to inspect

- VT 025 Clean shell and tube water cooled condenser or chilled water evaporator (100 to 200 ton system). --Includes drain and fill; remove and install end plates; punch clean tubes; fabricate and install gaskets & material handling.

005.06972 hours per condensers or evaporators to clean

- VT 028 Clean shell and tube condenser or chilled water evaporator (300 to 400 ton system). --Includes drain and fill; remove and install end plates; punch and clean tubes; fabricate and install gaskets & material handling.

008.62852 hours per condensers or evaporators to clean

- VT 066 Punch tubes in shell and tube watercooled condenser or chilled water evaporator (700-800 ton sys.)  
Includes: drain & fill tubes; rmv & instl- pipe fittings, large nuts, end plates, gaskets; drain & fill tubes; punch clean tubes; dry tubes with rag; cut fabricate gaskets; material handling; get, ascend, descend & aside ladder/ or use scaffold.

014.72301 hours per watercooled condensers or evaporators to drain

- VT 056 Clean, inspect, adjust and lubricate evaporative condenser or metal cooling tower (3-9 ton).

Includes: rmv & instl panels & screws, belts, floats; drain & fill condenser; clean-inside cabinet & component with water hose, brush & /or cloth; motor inspect, adjust, motor & float: lubricate fan, motor bearings, & pump.

002.00204 hours per cooling towers or condensers to inspect

- VT 061 Clean, lubricate, adjust and inspect evaporative condenser or metal cooling tower (25-49 ton sys.) DOES NOT INCLUDE ACID CLEAN  
Includes: rmv & instl- panels & screws, belts, nozzles, floats baffles; clean-lubricate-inspect-adjust-cabinet interior(by hose, scraping, brushing, wiping) also blower fan, motor, water pump, float; drain & fill condenser.

004.89947 hours per condensers or cooling towers to inspect

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 063 Clean, lubricate, adjust and inspect evaporative condenser or metal cooling tower (100-199 system) DOES NOT INCLUDE ACID CLEA  
Includes: draining & filling; rmv & instl- panels, screws, belts, nozzles, float, baffles; clean-lubricate-adjust-inspect-cabinet interior(with hose, scrape, brush, wipe) also blower fa, water pump,float; fill & drain condenser.  
  
008.98744 hours per condensers or cooling towers to inspect
- VT 062 Clean, lubricate, adjust and inspect aircooled condenser (3-24 ton air conditioning system).  
Includes: rmv & instl- panels & screws, belt; clean-lubricate inspect-adjust- cabinet( hose, scrape, brush & wipe) also fan, motor.  
  
000.93915 hours per aircooled condensers to inspect
- VT 064 Clean, lubricate, adjust and inspect aircooled condenser (25-49 ton air conditioning system).  
Includes: rmv & instl- panels & screws, belt; clean-lubricate inspect-adjust- cabinet(with hose, scrap, brush, wipe) also fan, motor; material handling.  
  
002.28911 hours per aircooled condensers to inspect
- VT 054 Clean, inspect, adjust & lubricate wood cooling tower (25-99 ton  
Includes: remove and install panels; clean inside tower and components with water hose, brush and/or cloth; inspect fan and motor; adjust motor and float; lubricate fan, motor and water pump.  
  
002.11524 hours per cooling towers to inspect
- VT 059 Clean, inspect, adjust & lubricate wood cooling tower(800-999ton  
Includes: rmv & install- panels & screws, slats, belts, float, gear box plug; tighten flange nuts; clean- inside of tower( byhose, scraping, brushing) also motor, water pump, float; lubricate- fan, motor, water pump & adjust; add oil to gear box drain & fill tower.  
  
010.38538 hours per cooling towers to inspect
- VT 056 Clean, inspect, adjust and lubricate evaporative condenser or metal cooling tower (3-9 ton).  
Includes: rmv & instl panels & screws,belts, floats; drain & fill condenser; clean-inside cabinet & component with water hose, brush & /or cloth; motor inspect, adjust, motor & float: lubricate fan, motor bearings, & pump.  
  
002.00204 hours per cooling towers or condensers to inspect

VT 061 Clean, lubricate, adjust and inspect evaporative condenser or metal cooling tower (25-49 ton sys.) DOES NOT INCLUDE ACID CLEA  
Includes: rmv & instl- panels & screws, belts, nozzles, floats baffles; clean-lubricate-inspect-adjust-cabinet interior(by hos , scraping, brushing, wiping) also blower fan, motor, water pum , float; drain & fill condenser.

004.89947 hours per condensers or cooling towers to inspect

VT 063 Clean, lubricate, adjust and inspect evaporative condenser or metal cooling tower (100-199 system) DOES NOT INCLUDE ACID CLEA  
Includes: draining & filling; rmv & instl- panels, screws, belts, nozzles, float, baffles; clean-lubricate-adjust-inspect-cabinet interior(with hose, scrape, brush, wipe) also blower fa , water pump,float; fill & drain condenser.

008.98744 hours per condensers or cooling towers to inspect

VT 046 Clean, inspect, adjust and lubricate package-type/self-contained airconditioning system (3-49 ton)  
Includes; rmv & instl- panels & screws, disposable filters, belts; lubricate-bearings, oil cups, crankcase; wipe/brush-moto , compressor, fan, cooling coils; inspect- for leaks, sight glass; adjust belt; charge & pump dn compressor; clean cabinet.

003.39761 hours per package-type airconditioners to inspect

VT 043 Clean and lubricate window airconditioning unit.  
Includes: rmv & instl- panels & screws, disposable filter;pul unit out & clean inside cabinet; lubricate- grease fittings & oil cups; sensory inspect- fan, blower; material handling.

000.91251 hours per window units to clean



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: Air Conditioning Units - Recurring Maintenance
:   Tasks Include: Remove and install access panel(s), clean,
:                   inspect, lubricate, add oil, make adjustments,
:                   change filters and fill out inspection report.
: NOTE: This maintenance requires minimum system shutdown.
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## TASK TIME STANDARDS LISTING

VT 038	Air Handler		3 to 24 tons
VT 060	Air Handler		25 to 250 tons
VT 041	Compressor,	package-type	3 to 9 tons
VT 042	Compressor,	open central compression	3 to 24 tons
VT 044	Compressor,	open central compression	25 tons & over
VT 039	Condenser,	air-cooled, per fan assembly	all sizes
VT 045	Condenser,	evaporative	25 tons & over
VT 047	Cooling tower,	wood	25 to 99 tons
VT 048	Cooling tower,	wood	500 to 999 tons
VT 040	Cooling tower,	metal	3 to 24 tons
VT 045	Cooling tower,	metal	25 tons & over
VT 041	Package-type,	self-contained	3 to 9 tons
VT 037	Package-type,	self-contained	10 to 49 tons
VT 036	Window unit		all sizes

- VT 038 Recurring maintenance--airhandling unit (3-24 ton)--includes inspect, lubricate and adjustment.  
Includes: rmv & instl- panels & screws, disposable filters; grease bearings; sensory inspection- fan motor; adjust belt tension; fill out inspection report.  
  
000.56595 hours per airhandling units to inspect
- VT 060 Recurring maintenance--inspect, adjust and lubricate air handling unit (25-250 ton system)  
Includes: rmv & instl- panels & screws, disposable filters; sensory inspect- fan, motor; grease bearings; adjust belt; fill out inspection report.  
  
001.02820 hours per airhandling units to inspect
- VT 041 Recurring maintenance--air or water-cooled package-type/ self-contained airconditioning system (3-9 ton).  
Includes: rmv & instl- panels & screws, disposable filters; lubricate- blower & oil cups; sensory inspect- fan, blower; wip motor & condenser; inspect for leaks & sight glass; fill out inspection report.  
  
000.73507 hours per package units to inspect
- VT 042 Recurring maintenance--compressor--open (central compression) airconditioning system. (3-24 ton system).  
Includes: wipe compressor & motor; inspect for leaks & sight glass; adjust belt tension; lubricate- bearings & addl oil; operational check; fill out inspection report.  
  
000.78070 hours per airconditioner systems to inspect
- VT 044 Recurring maintenance--compressor--open (central compression) airconditioning system (25 ton and over system).  
Includes: wipe compressor & motor; check - motor alignment & adjust, operational check; inspect- for leaks, sight glass, guage; drain air tanks; add oil; lubricate bearings.  
  
000.98900 hours per airconditioner systems to inspect
- VT 039 Recurring maintenance--aircooled condenser; per fan assembly.  
Includes: rmv & instl- panels & screws, disposable filters; grease bearings; adjust belt tension; fill out inspection report.  
  
000.61785 hours per aircooled condensers to inspect

- VT 045 Recurring maintenance--evaporative condenser or metal cooling tower (25 ton and over air conditioning system).  
Includes: rmv & instl- panels & screws; adjust - belt, float; lubricate- bearings, fan, motor, pump; sensory inspect- bearing; fill out inspect report.  
  
001.09415 hours per condensers or cooling towers to inspect
- VT 047 Recurring maintenance--wood cooling tower (25-99 ton A/C system)  
Includes: rmv & instl- screens & screws, gear box plug; clean fan; motor- clean, lub, inspect, adjust; add oil to gear box; adjust- belt, float; lubricate- fan, pump; sensory inspect- bearings; fill out inspection report.  
  
000.73644 hours per cooling towers or condensers to inspect
- VT 048 Recurring maintenance--wood cooling tower (500-999 ton conditioning system).  
Includes: rmv & instl- screens & screws, gear box plug; clean fan, motor; lubricate- motor, bearings & add oil to gear box; adjust floats, belts, motors; sensory inspect- bearings, motors fill out inspection report.  
  
002.21919 hours per cooling towers to inspect
- VT 040 Recurring maintenance--evaporative cooler or metal cooling tower (3-24 ton).  
Includes: rmv & instl- panels & screws; grease- bearings, fan motors & pump; adjust- belt, float; sensory inspect- bearings; fill out inspection report.  
  
000.67835 hours per evaporative coolers or cooling towers to inspect
- VT 045 Recurring maintenance--evaporative condenser or metal cooling tower (25 ton and over air conditioning system).  
Includes: rmv & instl- panels & screws; adjust - belt, float; lubricate- bearings, fan, motor, pump; sensory inspect- bearing; fill out inspect report.  
  
001.09415 hours per condensers or cooling towers to inspect
- VT 041 Recurring maintenance--air or water-cooled package-type/self-contained airconditioning system (3-9 ton).  
Includes: rmv & instl- panels & screws, disposeable filters; lubricate- blower & oil cups; sensory inspect- fan, blower; wip motor & condenser; inspect for leaks & sight glass; fill out inspection report.  
  
000.73507 hours per package units to inspect

- VT 037 Recurring maintenance--package-type airconditioning system (10-49 ton).  
Includes: rmv & instl- panels & screws, disposable filters; lubricate blower grease fittings & oil cups & fill crankcase; sensory inspect- motor & blower; wipe compressor & motor/inspect for leaks & sight glass; adjust pulley.  
  
001.20667 hours per package-type airconditioners to inspect
- VT 036 Recurring maintenance--window airconditioning unit.  
Includes: rmv & instl- panels & screws, disposable filters; bearings- sensory inspection.  
  
000.24715 hours per window units to inspect

## - Seasonal Shutdown

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: Air Conditioning Units - Seasonal Shutdown
:   Tasks Include: Remove and install panel, sensory inspect
:                   bearings, turn off power, fill out inspection
:                   report, pump down & drain tank as appropriate.
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## TASK TIME STANDARDS LISTING

VT 026	Air Handler,	cooling only	all sizes	.
VT 027	Compressor,	open central compression	all sizes	.
VT 029	Condenser,	evaporative, cooling only	100 to 199 tons	.
VT 030	Condenser,	evaporative, cooling only	3 to 99 tons	.
VT 031	Condenser,	air-cooled, per fan assembly	all sizes	.
VT 033	Cooling tower,	metal	3 to 99 tons	.
VT 032	Cooling tower,	metal	100 to 199 tons	.
VT 030	Cooling tower,	metal, evaporative	3 to 99 tons	.
VT 033	Cooling tower,	wood	25 to 199 tons	.
VT 032	Cooling tower,	wood	200 to 299 tons	.
VT 034	Package-type,	self-contained	all sizes	.
VT 035	Window units		all sizes	.

- VT 026 Seasonal (fall) operation--shutdown air handling unit;  
cooling only.  
Includes: rmv & instl panels & screws; bearings- sensory  
inspection & grease, fill out inspection report & shut switch  
off.  
  
000.46960 hours per cooling units to shutdown
- VT 027 Seasonal (fall) operation--shutdown compressor.  
Includes: prepare & pump down system into receiver, check for  
leaks & note, turn switch off, & fill out inspection report.  
  
000.49665 hours per compressors to shutdown
- VT 029 Seasonal (fall) operation--shutdown evaporative condenser  
or metal cooling tower (100 to 199 ton air conditioning system)  
Includes: rmv & instl panels & screws, sensory bearing  
inspection, drain water, turn switch to off & fill out  
inspection report.  
  
000.96705 hours per cooling towers or condensers to shutdown
- VT 030 Seasonal (fall) operation--shutdown evaporator, condenser or  
metal cooling tower (3 to 99 ton system).  
Includes: rmv & instl- panels & screws, bearings- sensory  
inspection, drain water, turn switch off, fill out inspection  
report.  
  
000.37245 hours per cooling towers or condensers to shutdown
- VT 031 Seasonal (fall) operation--shutdown air cooled condenser;  
per fan assembly.  
Includes: rmv & instl panels & screws, bearing- sensory  
inspection, turn switch off & fill out inspection report.  
  
000.33455 hours per aircooled condensers to shutdown
- VT 033 Seasonal (fall) operation--shut down wood cooling tower  
(25-199 ton) or metal cooling tower (3-99 ton).  
Includes: rmv & instl screens & screws; bearings & gear boxes  
sensory inspection, prepare to drain/ drain, turn switch off &  
fill out inspection report.  
  
000.66347 hours per cooling towers or condensers to shutdown
- VT 032 Seasonal (fall) operation--shutdown wood cooling tower  
(200 to 299 ton) or metal cooling tower (100 to 199 ton).  
Includes: rmv & instl screens & screws; bearings & gear boxes  
sensory inspection, prepare to drain/drain, turn switch off &  
fill out inspection report.  
  
001.20487 hours per cooling towers or condensers to shutdown

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 030 Seasonal (fall) operation--shutdown evaporator, condenser or metal cooling tower (3 to 99 ton system).  
Includes: rmv & instl- panels & screws, bearings- sensory inspection, drain water, turn switch off, fill out inspection report.  
  
000.37245 hours per cooling towers or condensers to shutdown
- VT 033 Seasonal (fall) operation--shut down wood cooling tower (25-199 ton) or metal cooling tower (3-99 ton).  
Includes: rmv & instl screens & screws; bearings & gear boxes sensory inspection, prepare to drain/ drain, turn switch off & fill out inspection report.  
  
000.66347 hours per cooling towers or condensers to shutdown
- VT 032 Seasonal (fall) operation--shutdown wood cooling tower (200 to 299 ton) or metal cooling tower (100 to 199 ton).  
Includes: rmv & instl screens & screws; bearings & gear boxes sensory inspection, prepare to drain/drain, turn switch off & fill out inspection report.  
  
001.20487 hours per cooling towers or condensers to shutdown
- VT 034 Seasonal (fall) operation--shut down package unit (10-49 ton).  
Includes: rmv & instl panels & screws, prepare & run compressor to pump into receiver, bearing sensory inspection, turn power off, fill out inspection report.  
  
000.74185 hours per package units to shutdown
- VT 035 Seasonal (fall) operation--shutdown window airconditioning unit.  
Includes: walk 250ft from previous location, locate & visual unit, turn switch off, unplug & stow/tie cord, carry set up/rmv ladder & use, cover & tape in place; fill out inspection report  
  
000.18432 hours per window units to shutdown

## - Remove and Install Units/Components

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: Air Conditioning Units - Remove and Install Units/Components
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: Tasks Include: Time to perform all operations required to
: remove and install units/components
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## TASK TIME STANDARDS LISTING

VT 011	Air Handler,	coil, heating and cooling	25 to 99 tons
VT 012	Air Handler,	evaporator	25 to 99 tons
VT 073	Air Handler,	motor & centrif-squirrel cage	all sizes
VT 074	Air Handler,	motor & propeller-type	all sizes
VT 065	Air Handler,	100 disposable-type filters	
		overhead plenums	avg 10 plenums
VT 006	Compressor,	open central	10 to 50 tons
VT 067	Compressor,	open central, value plates	all sizes
VT 014	Compressor,	open central, thermostatic	all sizes
		expansion valve	
VT 008	Condenser,	air-cooled	3 to 10 tons
VT 009	Condenser,	air-cooled	25 to 99 tons
VT 010	Condenser,	shell and tube, water-cooled	25 to 99 tons
VT 075	Cooling tower,	fan & motor only	all sizes
VT 008	Package-type,	air cooled, condenser or	3 to 10 tons
		evaporative	
VT 073	Package-type,	fan and motor, centrifugal	all sizes
		squirrel cage	
VT 074	Package-type,	fan and motor, propeller-type	all sizes
VT 077	Window A/C unit,	install, raisable sash	up to 1/2 ton
VT 016	Window A/C unit,	install, raisable sash	1/2 to 2 tons
VT 024	Window A/C unit,	install, fixed sash	up to 3 tons
VT 076	Window A/C unit,	remove, raisable sash	up to 1/2 ton
VT 017	Window A/C unit,	remove, raisable sash	1/2 to 2 tons



- VT 011 Remove and install cooling (chilled water) or heating coil (25-99 ton air handling system).  
Includes: rmv & instl-access panel, fitting bolts, prepare to rmv, rmv & instl unit, all actions required to put unit into operation, operational check, material handling.  
  
003.83825 hours per cooling or heating coils to replace
- VT 012 Remove and install cooling unit (evaporator) in a 25-99 ton air handling unit--direct expansion system.  
Includes: rmv & instl- access panel, fittings, plug & unplug port openings, pump down system, prepare to rmv, rmv & instl-evaporator, bolts, put system into operation & charge, operational check, & material handling.  
  
004.59584 hours per cooling units to replace
- VT 073 Remove and install centrifugal (squirrel cage) fan and motor.  
Includes:all actions required to rmv & instl fan & motor, walk in obstructed area & material handling.  
  
001.84336 hours per squirrel cages to replace
- VT 074 Remove and install aircooling unit propeller-type fan & motor.  
Includes : rmv & instl- fan, fan motor; walk in obstructed area; material handling.  
  
001.92780 hours per propeller motors to replace
- VT 065 Remove and install 100-disposable type filters from overhead plenums.--Avg. 10-plenums per 100 filters. Ladder use included  
Includes: rmv & instl- panels & screws, 100 disposable filter ; material handling; get , set up , move , decend/climb/use, aside ladder.  
  
006.15818 hours per occurrences (1 occurance averages 10 plenum s per 100 filters)
- VT 006 Remove and install compressor, 10 to 50 tons, in open (central compression) air conditioning system.  
Includes: pump down compressor, rmv & instl- bolts & intake & discharge valves, oil line & gages, valve fittings & bolts, belt guard& bolts, belts,compressor & bolts, flywheel. Charge open system,& operational check, & material handling as reqd.  
  
005.37111 hours per air conditioner compressors to replace
- VT 067 Remove and install valve plates on compressor in open (central compression) air conditioning system.  
Includes: pump down system; rmv & instl- head bolts & plate c ver, valve plate bolts, valve plate, gaskets, cover; pull vacum on system; charge system; operational check.  
  
004.34293 hours per compressors replacing valve plates

- VT 014 Remove and install thermostatic expansion valve in a 25 to 99 ton open (central compression) air conditioning system.  
Includes: pump down system into receiver, rmv & instl fitting plug & unplug port openings, prepare to rmv, rmv & instl& test expansion valve, charge open a/c system (av 25 tons lost), operational check of system, material handling.
- 003.15360 hours per expansion valves to replace
- VT 008 Remove and install air cooled condenser or evaporator in a 3-10 ton package-type/self-contained air conditioning system.  
Includes: rmv &instl- access panel, fitting, bolts, condenser plug & unplug port opening, charge unit, operational check, & material handling.
- 004.20403 hours per air cooled condensers or evaporators to replace
- VT 009 Remove and install air cooled condenser in a 25-99 ton open (central compression) air conditioning system.  
Includes: pump dn system, rmv & instl-screws, panels, fitting plug & unplug port openings. rmv & instl-bolts, condenser, charge open system, operational check & material handling.
- 008.99294 hours per air cooled condensers to replace
- VT 010 Remove and install shell and tube water cooled condenser in a 25-99 ton air conditioning system.  
Includes: pump dn system, rmv & instl-fittings, bolts,plug unplug port openings,prepare to rmv, & rmv & instl condenser, charge system, drain & fill condenser, operational check, & material handling.
- 006.99385 hours per water-cooled condensers to replace
- VT 075 Remove and install fan and motor in water tower.  
Includes: rmv & instl- fan, fan motor; walk in obstructed area; material handling.
- 002.53132 hours per motors to replace
- VT 008 Remove and install air cooled condenser or evaporator in a 3-10 ton package-type/self-contained air conditioning system.  
Includes: rmv &instl- access panel, fitting, bolts, condenser plug & unplug port opening, charge unit, operational check, & material handling.
- 004.20403 hours per air cooled condensers or evaporators to replace

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 073 Remove and install centrifugal (squirrel cage) fan and motor.  
Includes: all actions required to rmv & instl fan & motor,  
walk in obstructed area & material handling.  
  
001.84336 hours per squirrel cages to replace
- VT 074 Remove and install aircooling unit propeller-type fan & motor.  
Includes : rmv & instl- fan, fan motor; walk in obstructed  
area; material handling.  
  
001.92780 hours per propeller motors to replace
- VT 077 Install window airconditioner (to 1/2 ton) in raisable window.  
Includes: raise & lower window; rmv unit from carton; positio  
unit in window; instl- leveling arm & adjust, filler, weather  
stripping; plug in unit: operational check; material handling.  
  
000.69733 hours per window units to install
- VT 016 Install new window air conditioner (1/2-2 tons) in window  
with raisable sash.  
Includes: unpackage, rmv retaining screws from a/c cabinet,  
instl cabinet, leveling arm, a/c unit & adjust; measure mark  
& cut filler panel, instl weather stripping, caulking,- plug  
in unit & operational check & material handling.  
  
001.47525 hours per window units to install
- VT 024 Install new window air conditioning unit (1/2 to 3 tons) in  
fixed steel sash window.  
Includes: rmv from packaging; rmv & instl panels & screws, &  
unit from cabinet; layout & modify window & instl mounting  
frame & leveling arm, instl cabinet & unit & filler panel &  
weather stripping & caulking, operational check/adjust& matlhd  
  
002.23044 hours per window units to install
- VT 076 Remove window airconditioner (to 1/2 ton) from raisable window.  
Includes: unplug unit & tie up cord; raise & lower window;  
rmv- weather stripping, filler panel; unit from window, loosen  
leveling screw; material handling; get, ascend, decend & aside  
ladder; fill out record sheet.  
  
000.32777 hours per window units to remove
- VT 017 Remove window air conditioner (1/2-2 tons) from raisable window.  
Includes: rmv face panel & attachment screws, rmv unit & inst  
in cabinet after removal, rmv weather stripping and panel &  
screws, raise & lower window & material handling.  
  
000.60424 hours per window units to remove

- Pump Down, Charge, Evacuate or  
Disassemble

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:
: Air Conditioning Systems/Units/Components : pump down,
:                                           charge & evacuate.
:
:
:
:

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### TASK TIME STANDARDS LISTING

VT 001	Charge,	A/C system	per ton
VT 002	Pump down,	compressor only	per system
VT 003	Pump down,	into receiver	per system
VT 004	Pump down,	into separate cylinders	per cylinder
VT 005	Pull vacuum,	on A/C system	per system
VT 070	Disassemble, clean, inspect, assemble,	evacuate compressor	10 to 25 tons
VT 071	Disassemble, clean, inspect, assemble,	evacuate compressor	50 to 100 tons

### EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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VT 001  Charge A/C system per ton
        Includes: rmv & instl- service valve caps, guage/hose manifold
        ; process time for charging, operational check, moving
        refrigerant cylinder occurred to normal requirements.

        000.61859 hours per System

        000.03789 hours per Ton

VT 002  Pump down A/C compressor only per system
        Includes: rmv & instl- valve service caps, gauge /hose manifold
        release & tighten valve & process time to pump down system
        occurred to normal requirements.

        000.37960 hours per System

VT 003  Pump down A/C system; into receiver.
        Includes: rmv & instl - service valve cap nuts, gauge , hose
        manifold; release & tighten valve, process time to pump down
        system into receiver, occurred to normal requirements.

        000.60560 hours per Air conditioning system

VT 004  Pump down A/C system; into separate cylinders.
        Includes: rmv & instl- service valve cap nuts, gauge/hose
        manifold; open & close valves, pump system down into separate
        cylinders, move refrigerant cylinder, occurred to normal
        requirements.

        000.27637 hours per Air conditioning system

        000.23376 hours per Cylinder

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- VT 005 Pull vacuum on A/C system.(to 10 tons)  
Includes: rmv & instl - service valve cap nuts, gauge/hose manifold; open & close compressor service valves, & process time to pull vacuum on 10 ton system, occurred to normal requirements.  
  
001.51100 hours per Air conditioning system
- VT 070 Secure system; drain & fill crankcase; disassemble & assemble; clean; inspect; & evacuate compressor (10-25 ton A/C system)  
DOES NOT INCLUDE PUMP DOWN, REMOVAL & OR INSTL OF COMPRESSOR  
Includes: clean-inspect-rmv & instl- all compressor component as rings,pistons,connecting rods/bolts,wrist pins,seals,bearing , flywheel,plates;matl handling;drain & fill; operational check  
  
005.17884 hours per systems to secure
- VT 071 Secure system; drain & fill crankcase; disassemble & assemble; clean; inspect; & evacuate compressor (50-100 ton A/C system)  
DOES NOT INCLUDE PUMP DOWN, REMOVAL & OR INSTL OF COMPRESSOR  
Includes: clean-inspect-rmv & instl- all compressor component as rings,pistons,connecting rod,bolts,wrist pins,seals,bearings flywheel,plates,material handling,drain&fill;operational check.  
  
009.32323 hours per systems to secure

- Miscellaneous Components/Units:  
Various Operations

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:
: Remove and Install Air Conditioning Components : Miscellaneous :
: NOTE: These task times are for miscellaneous work that could :
: apply to components found in more than one system/units :
: with the same work content. :
: :
: :
: :

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## TASK TIME STANDARDS LISTING

VT 069	Replace, belt	on water cooler
VT 021	Replace, filter	disposable type in overhead unit
VT 022	Replace, belt	compressor set of 3, in an open central compression A/C system
VT 007	Replace, motor electric	under 1 HP
VT 015	Replace, strainer/dryer	in open central compression A/C system
VT 068	Replace, gasket	on refrigerator door, domestic
VT 073	Replace, fan & motor	centrifugal
VT 074	Replace, fan & motor	propeller-type
VT 075	Replace, fan & motor	in cooling tower
VT 072	Replace, seals & bearings	in water pump 3 HP motor
VT 023	Replace, float linkage	in water towers or condensers
VT 018	Replace, bearing, solid	with split type bearing on centrifical squirrel cage shaft
VT 013	Replace, recvr/King valve	in open central compression A/C system
VT 014	Replace, thermostatic expansion valve,	in open central compression A/C system
VT 065	Replace, filters 100 disposable-type,	10 plenums per 100
VT 067	Replace, valve plates	on compressor in open central compression A/C system
VT 070	Disassemble, clean, inspect, assemble	10 to 25 tons
	evacuate compressor	
VT 071	Disassemble, clean, inspect, assemble,	50 to 100 tons
	evacuate compressor	
VT 019	Annual maint. on absorber or generator	100 tons absorbt system
VT 020	Annual maint. on absorber or generator	300 tons absorbt system

- VT 069 Remove and install belt on watercooler.  
Includes: rmv & instl- panels & screws, belt, plug; loosen & tighten base bolts; adjust belt tension; operational check.  
  
000.23180 hours per watercooler belts to replace
- VT 021 Remove and install disposable type filter in individual overhead unit-- ladder used.  
Includes: rmv & instl - panels, screws, filters ; & material handling, & position & use ladder.  
  
000.23109 hours per disposable filters to replace
- VT 022 Remove and install a set of three belts on a compressor in an open (central compression) air conditioning system.  
Includes: power off & on, rmv & instl- belts, belt guard & screws, adjust motor base & loosen & tighten motor bolts, operational check & material handling.  
  
000.70084 hours per sets of compressor belts (1 set has 3 belts)
- VT 007 Remove and install electric motor (under 1-hp).  
Includes: rmv & instl - screws, panels, base bolts & motor, disconnect wiring , plug & unplug, operational check of motor & material handling.  
  
000.53503 hours per electric motors to replace
- VT 015 Remove and install strainer or dryer in a 25-99 ton open (central compression) air conditioning system.  
Includes: pump down system into receiver, rmv & instl screws, prepare to rmv, rmv & instl dryer strainer & strainer insert, operational check of system, & material handling.  
  
001.63999 hours per strainers or dryers to replace
- VT 068 Remove and install door gasket on domestic refrigerator.  
Includes: rmv & instl- panels & screws, gaskets; adjust door panels & gaskets; check for fit; clean door.  
  
001.21430 hours per refrigerator gaskits to replace
- VT 073 Remove and install centrifugal (squirrel cage) fan and motor.  
Includes:all actions required to rmv & instl fan & motor, walk in obstructed area & material handling.  
  
001.84336 hours per squirrel cages to replace

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 074 Remove and install aircooling unit propeller-type fan & motor.  
Includes : rmv & instl- fan, fan motor; walk in obstructed area; material handling.  
  
001.92780 hours per propeller motors to replace
- VT 075 Remove and install fan and motor in water tower.  
Includes: rmv & instl- fan, fan motor; walk in obstructed area; material handling.  
  
002.53132 hours per motors to replace
- VT 072 Replace seals and bearings in water pump with 3-HP motor.  
Includes:secure system; remove & install pump; disassemble & assemble; activate system.(rmv & instl drain plug, strainers, shock absorbers, bolts, housing, gaskets, mount screws, couplin & screws, impeller & nuts, seals & bearings & bolts, material handling; on/off power, valves; secure water lines in position.  
  
001.57622 hours per water pumps to overhaul
- VT 023 Remove and install float linkage in water tower or condenser.  
Includes: rmv & instl- panels & screws, float assembly; adjus foat linkage & operational check.  
  
000.50880 hours per float linkages to replace
- VT 018 Remove solid bearing and install split type bearing on centrifugal (squirrel cage) fan shaft.  
Includes: rmv & instl- access panels & screws, oil filler tube bearing cap , bolts, bearing housing nuts & bolts, adjust retainer, burn housing, operational check, & material handling  
  
001.24314 hours per fans to replace bearings
- VT 013 Remove and install receiver value or king value in an open (central compression) system. avg. 50 ton AC system.  
Includes: rmv & instl- valve or receiver flanges, receiver; check operation of system, charge open a/c system, pump dn a/c system.  
  
003.45722 hours per receiver or king valves to replace
- VT 014 Remove and install thermostatic expansion value in a 25 to 99 ton open (central compression) air conditioning system.  
Includes: pump down system into receiver, rmv & instl fitting plug & unplug port openings, prepare to rmv, rmv & instl& test expansion valve, charge open a/c system (av 25 tons lost), operational check of system, material handling.  
  
003.15360 hours per expansion valves to replace



## EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

VT 065 Remove and install 100-disposable type filters from overhead plenums.--Avg. 10-plenums per 100 filters. Ladder use included  
Includes: rmv & instl- panels & screws, 100 disposable filter ; material handling; get , set up , move , descend/climb/use, aside ladder.

006.15818 hours per occurrences (1 occurrence averages 10 plenums per 100 filters)

VT 067 Remove and install valve plates on compressor in open (central compression) air conditioning system.  
Includes: pump down system; rmv & instl- head bolts & plate cover, valve plate bolts, valve plate, gaskets, cover; pull vacuum on system; charge system; operational check.

004.34293 hours per compressors replacing valve plates

VT 070 Secure system; drain & fill crankcase; disassemble & assemble; clean; inspect; & evacuate compressor (10-25 ton A/C system) DOES NOT INCLUDE PUMP DOWN, REMOVAL & OR INSTL OF COMPRESSOR  
Includes: clean-inspect-rmv & instl- all compressor component as rings,pistons,connecting rods/bolts,wrist pins,seals,bearing , flywheel,plates;matl handling;drain & fill; operational check

005.17884 hours per systems to secure

VT 071 Secure system; drain & fill crankcase; disassemble & assemble; clean; inspect; & evacuate compressor (50-100 ton A/C system) DOES NOT INCLUDE PUMP DOWN, REMOVAL & OR INSTL OF COMPRESSOR  
Includes: clean-inspect-rmv & instl- all compressor component as rings,pistons,connecting rod,bolts,wrist pins,seals,bearings flywheel,plates,material handling,drain&fill;operational check.

009.32323 hours per systems to secure

VT 019 Drain, remove and install end plates, punch tubes, and fill absorber or generator in 100 ton absorption system. Use ladder  
Includes: rmv & instl - pipe fittings, nuts, end plates; drain & fill tubes, punch tubes, fabricate gaskets & install & reqd material handling.

006.98584 hours per systems to replace end plates and punch tubes

VT 020 Drain, remove and install end plates, punch tubes, and fill absorber or generator in 300 ton absorption system. Use ladder.  
Includes: rmv & instl pipe fittings, nuts, end plates; drain fill tubes, punch tubes, fabricate gaskets & install & material handling.

011.43553 hours per systems to replace end plates and punch tubes

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:
: Fire or Water Tube Boiler -Assist Boiler Inspector in Inspection :
:   External Inspection : Includes all external boiler parts & :
:                       components. :
:   Internal Inspection : Includes all internal boiler parts & :
:                       components. CONTINUED :
:   Operating Inspection : Includes using inspector gage, :
:                       checking & adjusting safety valve, :
:                       waiting for maximum pressure. :
:   Hydrostatic Inspection: Includes using hand pump, search & :
:                       repair, search & repair CONTINUED :
:                       minor leaks.--NOTE: no time allowed :
:                       To fill or drain drum :
:
:
:

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## TASK TIME STANDARDS LISTING

VT 200	Inspection, external	Fire tube	per boiler
VT 201	Inspection, external	Water tube	per boiler
			.
VT 202	Inspection, internal	Fire tube	per boiler
VT 203	Inspection, internal	Water tube	per boiler
			.
VT 204	Inspection, operating test	Fire tube	per boiler
VT 205	Inspection, operating test	Water tube	per boiler
			.
VT 206	Inspection, hydrostatic test	Fire tube	per boiler
VT 207	Inspection, hydrostatic test	Water tube	per boiler
			.
VT 208	Inspection, internal and external	Fire tube	per boiler
VT 209	Inspection, internal and external	Water tube	per boiler
			.
VT 210	Inspection, internal, external, & hydrostatic test	Fire tube	per boiler
VT 211	Inspection, internal, external, & hydrostatic test	Water tube	per boiler

VT 200 BOILER INSPECTION, EXTERNAL, FIRE TUBE-- Assist boiler inspector  
inspect boiler, 3,348 to 6,696 lb./hr. (100 to 200 HP).  
  
000.38283 hours per Boiler

VT 201 BOILER INSPECTION, EXTERNAL, WATER TUBE -- Assist boiler  
inspector inspect boiler, 16,740 to 33,480 lb./hr. (500 to  
1000 HP).  
  
000.46372 hours per Boiler

VT 202 BOILER INSPECTION, INTERNAL, FIRE TUBE-- Assist boiler inspector  
inspect boiler, 3,348 to 6,696 lb./hr. (100 to 200 hp).  
  
000.67065 hours per Boiler

VT 203 BOILER INSPECTION, INTERNAL, WATER TUBE -- Assist boiler inspec-  
tor inspect boiler, 16,740 to 33,480 lb./hr. (500 to 1000 HP).  
  
001.42617 hours per Boiler

VT 204 BOILER OPERATIONAL TEST, FIRE TUBE -- Assist boiler inspector  
test boiler, 3,348 to 6,696 lb./hr. (100 to 200 HP).  
  
000.53314 hours per Boiler

VT 205 BOILER OPERATIONAL TEST, WATER TUBE -- Assist boiler inspector  
test boiler, 16,740 to 33,480 lb./hr. (500 to 1000 HP).  
  
000.87561 hours per Boiler

VT 206 BOILER INSPECTION, HYDROSTATIC, FIRE TUBE -- Assist boiler in-  
spector inspect boiler, 3,348 to 6,696 lb./hr. (100 to 200 HP).  
  
001.48028 hours per Boiler

VT 207 BOILER INSPECTION, HYDROSTATIC, WATER TUBE -- Assist boiler in-  
spector inspect boiler, 16,740 to 33,480 lb./hr. (500 to 1000  
HP).  
  
002.43572 hours per Boiler

VT 208 BOILER INSPECTION, EXTERNAL AND INTERNAL, FIRE TUBE -- Assist  
boiler inspector inspect boiler, 3,348 to 6,696 lb./hr. (100 -  
200 HP).  
  
001.05348 hours per BOILER

VT 209 BOILER INSPECTION, EXTERNAL AND INTERNAL, WATER TUBE -- Assist boiler inspector inspect boiler, 16,740 to 33,480 lb./hr. (500-1000 HP).

001.88989 hours per Boiler

VT 210 BOILER INSPECTION, HYDROSTATIC, EXTERNAL AND INTERNAL, FIRE TUBE Assist boiler inspector inspect boiler, 3,348 to 6,696 lb./hr. (100-200 HP).

002.53376 hours per Boiler

VT 211 BOILER INSPECTION, EXTERNAL, INTERNAL AND HYDROSTATIC, FIRE TUBE -- Assist boiler inspector inspect boiler, 16,740 to 33,480 lb./hr.(500 to 1000 HP)

004.29795 hours per Boiler

- Superheater, Precipitator or Air  
Preheaters: Open and Close Fireside

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:
: Fire Tube or Water Tube Boiler, Superheater, Precipitator or
: Preheater - Open or Close Fireside
: Open or close fireside : Consists of removing & installing a
: combination of doors, plates, steel strips, firebricks, etc.
: Includes all work necessary to rmv or instl ea piece CONT'D
: Total time shall be obtained as follows:
: 1) Determine total number of each component to be removed or
: installed.
: 2) Find group time value for each number of components.
: 3) Add group time values together. CONTINUED
: NOTE: Quantities given are for remove or install and
: double for remove and install.
:
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:

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## TASK TIME STANDARDS LISTING

VT 212	Remove or install door,	tube sheet compartment	door
VT 213	Remove or install door,	fire box	door
VT 214	Remove or install door,	ash pit	door
VT 215	Remove or install door,	access pass	door
VT 216	Remove or install door,	explosion proof	door
VT 217	Remove or install door,	superheater	door
VT 218	Remove or install door,	precipitator	door
VT 219	Remove or install door,	access	door
VT 220	Remove or install door,	clean-out	door
VT 221	Remove or install door,	peephole	door
VT 222	Remove or install door,	plates - inspection plate, bolted	
VT 223	Remove or install	steel sheet strip	
VT 224	Remove or install	firebox top	
VT 225	Remove or install	firebox top insulation, per piece	
VT 226	Remove or install	firebrick, per brick	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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VT	212	Remove or install tube sheet compartment door on fire tube or water tube boiler.	000.07955 hours per Door
VT	213	Remove or install fire box door on fire tube or water tube boiler.	000.09142 hours per Door
VT	214	Remove or install ashpit door on fire tube or water tube boiler.	000.09142 hours per Door
VT	215	Remove or install access pass door on fire tube or water tube boiler.	000.09142 hours per Door
VT	216	Remove or install explosion-proof door on fire tube or water tube boiler.	000.09719 hours per Door
VT	217	Remove or install superheater door on water tube boiler.	000.09719 hours per Door
VT	218	Remove or install precipitator door on water tube boiler. Includes: remove and install door nuts, door bolts, steel plate and walk around work area to perform required duties.	000.52105 hours per Door
VT	219	Remove or install access door on fire tube or water tube boiler.	000.09142 hours per Door
VT	220	Remove or install clean-out door on fire tube or water tube boiler.	000.02480 hours per Door
VT	221	Remove or install peephole door on fire tube or water tube boiler.	000.02480 hours per Door

VT 222 Remove or install bolted inspection plates on fire tube or water tube boiler.

000.09576 hours per Plate

VT 223 Remove or install steel sheet strip on fire tube or water tube boiler.

000.01265 hours per Steel strip

VT 224 Remove or install firebox top insulation on boiler.

000.02412 hours per Firebox top

VT 225 Remove or install firebox top in boiler.

000.03618 hours per Firebox top

VT 226 Remove or install firebrick.

000.01265 hours per Firebrick

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:
:   Fire Tube or Water Tube Boiler - Open or Close Waterside
:   Open or close waterside : Consists of removing & installing
:   a combination of plugs, manhole and handhole covers.
:   Use of ladders where required is included.
:   Total time shall be obtained as follows: CONTINUED
:   1) Determine total number of each component to be removed or
:       installed.
:   2) Find group time value for each number of components.
:   3) Add group time values together.
:
:
:
:

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## TASK TIME STANDARDS LISTING

VT 227	Remove or install	shell plug
VT 228	Remove	manhole cover
VT 229	Remove	handhole cover
VT 230	Install	manhole cover
VT 231	Install	handhole cover
VT 232	Prepare to	drain boiler
VT 233	Fill & inspect	boiler

## EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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VT 227	Remove or install shell plug on fire tube or water tube boiler.
	000.02480 hours per Shell plug
VT 228	Remove manhole cover on fire tube or water tube boiler.
	000.09576 hours per Manhole cover
VT 229	Remove handhole cover on fire tube or water tube boiler.
	000.05358 hours per Manhole cover
VT 230	Install manhole cover on fire tube or water tube boiler.
	000.20407 hours per Manhole cover
VT 231	Install handhole cover on fire tube or water tube boiler.
	000.11517 hours per Handhole cover
VT 232	Prepare to drain boiler.
	000.08703 hours per Boiler



VT 233 Fill boiler and inspect for leaks.

000.63122 hours per Boiler

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:
: Water Tube Boiler : CLEAN fireside, waterside, air preheater :
: (fireside), precipitator (fireside), superheater :
: Fireside heavy slag: REMOVE slag, loose cinders, clean fire box, :
: 2 passes, tubes by scraping.Vacuum fire box top. :
: Fireside light slag: REMOVE slag, loose cinders, clean CONTINUED :
: fire box, 2 passes, tubes by scraping.(No vacuum time) :
: Waterside : Wash & scrape drum. Turbining tool in tubes.No :
: time for remove or install baffling. :
: Air preheater: Use water hose in tubes.Clean smoke box under air :
: preheater tubes using air hose & shovel.CONTINUED :
: Precipitator : Use air hose;blow out compartment at top of tubes :
: and push air hose into tubes. :
: Superheater : Use scraper; clean header box by vacuuming, clean :
: superheater tubes or header, air preheater or :
: precipitator. :
:
:
:
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## TASK TIME STANDARDS LISTING

VT 242	Waterside	5ft ID x 20ft Drum, high pressure water only no turbining to 800 tubes
VT 243	Waterside	3ft ID x 10ft Drum, (1" to 3") turbined-60 tubes 10ft to 20ft long
VT 245	Waterside	3ft ID x 10ft Drum, (2 1/2" to 4") turbined-98 tubes 30ft to 50ft long
VT 244	Waterside	3ft ID x 10ft Drum (1" to 3") turbined-110 tubes 10ft to 20ft long
VT 246	Waterside	3ft ID x 20ft Drum (2 1/2" to 4") turbined-141 tubes 30ft to 50ft long
VT 247	Waterside	3ft ID x 20ft Drum (2 1/2" to 4") turbined-240 tubes 30ft to 50ft long
VT 248	Waterside	3ft ID x 20ft Drum (1 1/2" to 4") turbined-321 tubes 30ft to 50ft long
VT 249	Waterside	5ft ID x 20ft Drum (2 1/2" to 4") turbined-425 tubes 30ft to 50ft long
VT 250	Waterside	5ft ID x 20ft Drum (2 1/2" to 4") turbined-590 tubes 30ft to 50ft long
VT 251	Waterside	5ft ID x 20ft Drum (2 1/2" to 4") turbined-732 Clean tubes 30ft to 50ft long
VT 235	Fireside, heavy slag	4ft x 10ft x 15ft fire box 110 tubes
VT 239	Fireside, heavy slag	8ft x 13ft x 20ft fire box 182 tubes
VT 240	Fireside, heavy slag	8ft x 16ft x 20ft fire box 420 tubes
VT 241	Fireside, heavy slag	8ft x 20ft x 30ft fire box 600 tubes
VT 234	Fireside, light slag	4ft X 10ft X 15ft fire box 166 tubes

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VT 236	Fireside, light slag	8ft x 13ft x 20ft fire box	182 tubes
VT 237	Fireside, light slag	10ft X 16ft X 20ft fire box	317 tubes
VT 238	Fireside, light slag	14ft X 20ft X 30ft fire box	400 tubes
VT 252	Fireside, air preheater	(2" x 20ft)	432 tubes
VT 253	Fireside, air preheater	(2 1/2" x 30ft)	675 tubes
VT 254	Fireside, air preheater	(2 1/2" x 30ft)	1024 tubes
VT 255	Precipator	(4") tubes 8ft long	36 tubes
VT 256	Superheater		120 tubes

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EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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VT 242 Clean water tube boiler, waterside, with 800 tubes openings and a drum of 5ft I.D. X 20ft long.- Includes: Enter and leave drum manhole, clean inside of drum with high pressure water; Wash tube openings in boiler by flushing with water; Material handling; and Walk around work area to perform duties.

001.14551 hours per Waterside of boiler

VT 243 Clean water tube boiler, waterside, 60 tubes (1" to 3" dia. X 10 to 20 feet long) and drum (3ft I.D. X 10ft long). -- Includes: Prepare water supply; Enter and leave drum manhole; Prepare turbinin head and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; Secure water supply; Material handling; and Walk around work area

002.64980 hours per Waterside of boiler

VT 245 Clean water tube boiler, waterside, 98 tubes (2 1/2" to 4" dia. X 30ft to 50ft long) and drum (3ft I.D. X 20ft long).- Includes Prepare water supply and secure after use; Enter and leave drum manhole; Prepare turbinin tool and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; Material handling; and Walk around work area.

003.42084 hours per Waterside of boiler

VT 244 Clean water tube boiler, waterside, 110 tubes (1" to 3" dia. X 10ft to 20ft long) and drum (3ft I.D. X 10ft long). -- Includes Prepare water supply and secure after use; Enter and leave drum manhole; Prepare turbinin tool and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; Material handling; and Walk around work area.

006.29290 hours per Waterside of boiler

VT 246 Clean water tube boiler, waterside, 141 tubes (2 1/2" to 4" dia. X 30ft to 50ft long) and drum (3ft I.D. X 20ft long).- Includes Prepare water supply and secure after use; Enter and leave drum manhole; prepare turbinin tool and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; Material handling; and Walk around work area.

008.24404 hours per Waterside of boiler

VT 247 Clean water tube boiler, waterside, 240 tubes (2 1/2" to 4" dia. X 30ft to 50ft long) and drum (3ft I.D. X 20ft long).- Includes Prepare water supply and secure after use; Enter and leave drum manhole; prepare turbinin tool and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; material handling; and Walk around work area.

012.44517 hours per Waterside of boiler

VT 248 Clean water tube boiler, Waterside, 321 tubes (1 1/2" to 4" dia. X 30ft to 50ft long) and drum (3ft I.D. X 20ft long).-Includes: Prepare water supply and secure after use; Enter and leave drum manhole; Prepare turbinin tool and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; Material handling; and Walk around work area.

015.57065 hours per Waterside of boiler

VT 249 Clean water tube boiler, waterside, 475 tubes (2 1/2" to 4" dia. X 30ft to 50ft long) and drum (5ft I.D. X 20ft long).-Includes: Prepare water supply and secure after use; Enter and leave drum manhole; Prepare turbinin tool and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; Material handling; and Walk around work area.

022.86268 hours per Waterside of boiler

VT 250 Clean water tube boiler, waterside, 590 tubes (2 1/2" to 4" dia. X 30ft to 50ft long) and drum (5ft I.D. X 20ft long).-Includes: Prepare water supply and secure after use; Enter and leave drum manhole; Prepare turbinin tool and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; Material handling; and Walk around work area.

028.28155 hours per Waterside of boiler

VT 251 Clean water tube boiler, waterside, 732 tubes (2 1/2" to 4" dia. X 30ft to 50ft long) and drum (5ft I.D. X 20ft long).-Includes: Prepare water supply and secure after use; Enter and leave drum manhole; prepare turbinin tool and turbine tubes with turbinin air hose; Scrape interior of drum and flush with high pressure water; Material handling; and Walk around work area.

033.83495 hours per Waterside of boiler

VT 235 Clean water tube boiler, fireside, heavily slagged, with 110 tubes and a 4ft X 10ft X 15ft firebox.--Includes: Enter & leave boiler through manhole; Remove slag & loose cinders from passes over lower drum; Scrape & brush tubes firebox walls & ceiling; Load debris into wheelbarrow & dispose Vacuum tubes & firebox; Material handling; & Walk around area.

014.58078 hours per Fireside of boiler

VT 239 Clean water tube boiler, fireside, heavily slagged, with 182 tubes & an 8ft X 13ft X 20ft firebox.-Includes: Enter and leave boiler through manhole; Clean 7 insulation bats; Remove residue from passes over lower drum; Scrape and brush tubes and firebox walls and ceiling; Vacuum tubes, inside firebox and top of fire box; Dispose of debris; Material handling; and Walk around area

039.56008 hours per Fireside of boiler

VT 240 Clean water tube boiler, fireside, heavily slagged, with 420 tubes & a 10ft X 16ft X 20ft firebox.-Includes: Enter and leave boiler through manhole; Clean insulation bats; Remove residue from passes over lower drum; Scrape and brush tubes and firebox walls and ceiling; Vacuum tubes, inside firebox and top of fire box; Dispose of debris; Material handling; and Walk around area

056.41700 hours per Fireside of boiler

VT 241 Clean water tube boiler, fireside, heavily slagged, with 600 tubes & a 14ft X 20ft X 30ft firebox.-Includes: Enter and leave boiler through manhole; Clean 7 insulation bats; Remove residue from passes over lower drum; Scrape and brush tubes and firebox walls and ceiling; Vacuum tubes, inside firebox and top of fire box; Dispose of debris; Material handling; and Walk around area

081.06282 hours per Fireside of boiler

VT 234 Clean water tube boiler, fireside, lightly slagged, with 166 tubes & a 4ft X 1ft X 15ft firebox.  
Includes: Enter & leave boiler through manhole; Remove slag & loose cinders from passes over lower drum; Scrape & brush tubes firebox walls & ceiling; Load debris into wheelbarrow & dispose Vacuum tubes & firebox; Material handling; & Walk around area.

007.52304 hours per Fireside of boiler

VT 236 Clean water tube boiler, fireside, lightly slagged, with 182 tubes & a 8ft X 13ft X 20ft firebox.  
Includes: Enter & leave boiler through manhole; Remove slag loose cinders from passes over lower drum; scrape & brush tubes firebox walls & ceiling; Load debris into wheelbarrow & dispose Vacuum tubes & firebox; Material handling; & Walk around area.

015.71396 hours per Fireside of boiler

VT 237 Clean water tube boiler, fireside, lightly slagged, with 317 tubes and a 10ftx 16ftx 20ft firebox.-Includes: Enter and leave boiler through manhole: Remove slag and loose cinders from passes over lower drum; Scrape and brush tubes and firebox wall and ceiling; Load debris into wheelbarrow and dispose; Vacuum tubes and firebox; Material handling; and Walk around area.

022.08025 hours per Fireside of boiler

- VT 238 Clean water tube boiler, fireside, lightly slagged, with 400 tubes & a 14ft X 20ft X 30ft firebox.-Includes: enter and leave boiler through manhole; Remove slag and loose cinders from passes over lower drum; Scrape and brush tubes and firebox wall and ceiling; Load debris into wheelbarrow and dispose; Vacuum tubes and firebox; Material handling; and Walk around area.

030.35135 hours per Fireside of boiler

- VT 252 Clean air preheater, fireside, 432 tubes (2" dia. X 20ft long) and "smoke" box. --Includes: Prepare water/air supply and secur after use; Enter and leave "smoke" box; Clean tubes with high pressure water; Clean "smoke" box with air hose and shovel out hardened fly ash; Material handling; and Walk around work area to perform necessary duties.

012.11547 hours per Fireside of air preheater

- VT 253 Clean air preheater, fireside, 675 tubes(2 1/2" dia. X 30ftlong) and "smoke" box. --Includes: Prepare water/air supply and secur after use; Enter and leave "smoke" box; Clean tubes with high pressure water; clean "smoke" box with air hose and shovel out hardened fly ash; Material handling; and Walk around work area to perform necessary duties.

019.11097 hours per Fireside of preheater

- VT 254 Clean air preheater, fireside, 1024 tubes (2 1/2" dia. X 30ft long) and "smoke" box. -- Includes: Prepare water and air suppl and secure after use; Enter and leave "smoke" box; Clean tubes with high pressure water; Clean "smoke" box with air hose and shovel out hardened fly ash; Material handling; and Walk around work area to perform necessary duties.

028.13445 hours per Fireside of preheater

- VT 255 Clean precipitator, fireside, 36 tubes (4" dia. X 8ft long). Includes: Prepare air supply and secure after use; Enter and leave precipitator opening; Push air hose in and out of each tube; Clean precipitator compartment with air hose; Material handling; and Walk around work area to perform duties.

001.77217 hours per Fireside of precipitator

- VT 256 Clean superheater, 120 tubes. -- Includes: Enter and leave man-hole; Scrape clean superheater tubes in pass over lower drum; Vacuum superheater box containing 250 SF of obtainable area; Material handling; and Walk around work area to perfrom necessary duties.

004.53758 hours per Superheater

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: Fire Tube or Water Tube Boiler : clean tubes, tube sheet
: compartments, fire boxes, waterside drum. Fire tubes are
: cleaned by using a tube scraper or pneumatic scraper or
: pneumatic turbing tool. Tube sheet compartments are cleaned
: by using a vacuum & broom. CONTINUED
: Fire boxes: Cleaned by using a broom, shovel and vacuum.
: Waterside : Cleaned by washing interior of drum with hose &
: inspecting work.
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#### TASK TIME STANDARDS LISTING

VT 257	CLEAN using	tube scraper	8ft tube	
VT 258	CLEAN using	pneumatic turbinning	8ft tube	
VT 259	CLEAN using	tube scraper	12ft tube	.
VT 260	CLEAN using	pneumatic turbinning	12ft tube	
VT 261	CLEAN using	tube scraper	16ft tube	.
VT 262	CLEAN using	pneumatic turbinning	16ft tube	
VT 263	CLEAN using	pneumatic turbinning	20ft tube	.
VT 264	CLEAN	tube sheet compartment		.
VT 265	CLEAN	fire box		
VT 266	CLEAN	fire tube boiler drum interior	1,205 lb/hr or 36 HP	
VT 267	CLEAN	fire tube boiler drum interior	4,185 lb/hr or 125 HP	
VT 268	CLEAN	fire tube boiler drum interior	5,858 lb/hr or 175 HP	
VT 269	CLEAN	fire tube boiler drum interior	6,696 lb/hr or 200 HP	

- VT 257 Clean fire tube in fire tube boiler, 8ft long, with scraper.  
Includes: Obtain & aside scraper; Ascend & descend scaffold;  
Clean boiler tube with scraper; and Walk around work area to  
perform necessary duties.
- 000.02408 hours per Job setup time
- 000.00880 hours per Fire tube
- VT 258 Clean fire tube in fire tube boiler, 8ft long, with pneumatic  
turbining tool. -- Includes: Prepare air supply and secure after  
use; Start and secure air compressor after use; Install and re-  
move turbining tool; Get, set up and aside ladder; Walk around  
work area to perform necessary duties; and Clean boiler tube.
- 000.19410 hours per Job setup time
- 000.00960 hours per Fire tube
- VT 259 Clean fire tube in fire tube boiler, 12ft long, with scraper.  
Includes: Obtain and aside tube scraper; Ascend and descend  
scaffold; Clean boiler tube with scraper; and Walk around work  
area to perform necessary duties.
- 000.02408 hours per Job setup time
- 000.01320 hours per Fire tube
- VT 260 Clean fire tube in fire tube boiler, 12ft long, with pneumatic  
turbining tool. -- Includes: Prepare air supply and secure after  
use; Start and secure air compressor after use; Install and re-  
move turbining tool; Get, set up and aside ladder; Walk around  
work area to perform necessary duties; and Clean boiler tube.
- 000.19410 hours per Job setup time
- 000.01440 hours per Fire tube
- VT 261 Clean fire tube in fire tube boiler, 16ft long, with scraper.  
Includes: Obtain and aside tube scraper; Ascend and descend  
scaffold; Walk around work area to perform necessary duties; and  
Clean boiler tube with scraper.
- 000.02408 hours per Job setup time
- 000.01760 hours per Fire tube



- VT 262 Clean fire tube in fire tube boiler, 16ft long, with pneumatic turbinizing tool. -- Includes: Prepare air supply and secure after use; Start and secure air compressor after use; Install and remove turbinizing tool; Get, set up and aside ladder; Walk around work area to perform necessary duties; and Clean boiler tube.

000.19410 hours per Job setup time

000.01920 hours per Fire tube

- VT 263 Clean fire tube in fire tube boiler, 20ft long, with pneumatic turbinizing tool. -- Includes: Prepare air supply and secure after use; Start and secure air compressor after use; Install and remove turbinizing tool; Get, set up and aside ladder; Walk around work area to perform necessary duties and Clean boiler tube.

000.19410 hours per Job setup time

000.02400 hours per Fire tube

- VT 264 Clean (1) tube sheet compartment in fire tube boiler with vacuum cleaner. -- Includes: Obtain and aside vacuum cleaner, broom, bucket and shovel; Relocate, ascend and descend scaffold Obtain power for vacuum cleaner and secure after use; Disassemble, empty and assemble vacuum cleaner after use; Clean tube sheet compartment; Empty soot from bucket; and Walk around area

000.74708 hours per Tube sheet compartment

- VT 265 Clean fire box in fire tube boiler with vacuum cleaner. Includes: Obtain and aside vacuum cleaner, broom, bucket and shovel; Obtain power for vacuum cleaner and secure after use; Disassemble, empty and assemble vacuum cleaner after use; Clean fire box using broom, shovel and vacuum cleaner; empty soot from bucket; and Walk around work area to perform necessary duties.

000.44148 hours per fire boxes to clean

- VT 266 Clean fire tube boiler drum, interior, (1,205 lb./hr. or 36 HP) --Includes: Remove & install manhole cover; Prepare water supply and secure after use; Set up, ascend, descend, and aside ladder after use; Wash interior of drum with high pressure water; Inspect drum; Material handling; and Walk around work area to perform necessary duties.

001.10223 hours per Drum

VT 267 Clean fire tube boiler drum, interior, (4,185 lb./hr. or 125 HP)  
--Includes: Remove & install manhole cover; prepare water suppl  
and secure after use; set up, ascend, descend and aside ladder  
after use; Wash interior of drum with high pressure water;  
Inspect drum; Material handling; and Walk around work area to  
perform necessary duties.

001.54923 hours per Drum

VT 268 Clean fire tube boiler drum, interior, (5,858 lb./hr. or 175 HP)  
--Includes: Remove & install manhole cover; Prepare water suppl  
and secure after use; Set up, ascend, descend, and aside ladder  
after use; Wash interior of drum with high pressure water;  
Inspect drum; Material handling; and walk around work area to  
perform necessary duties.

002.12283 hours per Drum

VT 269 Clean fire tube boiler drum, interior, (6,696 lb./hr. or 200 HP)  
--Includes: Remove & install manhole cover; Prepare water suppl  
and secure after use; Set up, ascend, descend and aside ladder  
after use; Wash interior of drum with high pressure water;  
Inspect drum; Material handling; and Walk around work area to  
perform necessary duties.

002.66736 hours per Drum

## BOILER, FIRE/WATER TUBE - Replace Tubes

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: Boiler Tubes - Remove and Install Tubes to 30ft long and 4" OD
: Method 1: (no cutting) Remove boiler tubes through manhole or
:                               handhole without cutting into smaller
:                               sections & install new tubes; WITH OR
:                               WITHOUT HOIST. CONTINUED
: Method 2: (cutting) Remove boiler tubes through manhole by
:                               cutting into smaller sections & install
:                               new tubes; WITH OR WITHOUT HOIST.
: Method 3: (own hole) Remove & install tubes through own hole
:                               & tubes sheet; WITH OR WITHOUT HOIST.
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## TASK TIME STANDARDS LISTING

VT 270	Method 1	per tube	not using hoist
VT 304	Method 1	per tube	using hoist
VT 271	Method 2	per tube	not using hoist
VT 305	Method 2	per tube	using hoist
VT 272	Method 3	per tube	not using hoist
VT 306	Method 3	per tube	using hoist
VT 273	Air preheater tubes	per tube	not using hoist
VT 307	Air preheater tubes	per tube	using hoist
VT 274	Tube sheet compartment door & door frame		not using hoist
VT 308	Tube sheet compartment door & door frame		using hoist
VT 275	Install boiler tube		using hoist
VT 309	Install boiler tube		not using hoist

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 270 Remove boiler tube (up to 4" O.D. X 20ft long) through manhole or handhole (without cutting into sections) and install new one --Includes: Rip and collapse tube nipple; Burn/cut tube into 2 sections; Enter and leave boiler fire box; Move door aside; Wal around work area performing necessary duties; Measure and mark length of new tube. Roll, expand and bead both ends of new tube
- 000.89401 hours per Tube
- VT 304 Remove boiler tube (up to 4" O. D. x 20ft long) through manhole or handhole (without cutting into sections) and install. Using hoist.
- 001.01400 hours per boiler tubes to replace
- VT 271 Remove boiler tube (up to 4" O.D. X 20ft long) through manhole (cutting into sections) and install new one.--Includes: Rip and collapse tube nipple; Burn/cut tube up to 5-cuts; Enter and exi boiler fire box; Move door aside; Walk around work area perform ing necessary duties; Measure and mark length of new tube; Roll expand and bead both ends of new tube.
- 000.93425 hours per Tube
- VT 305 Remove boiler tube (up to 4" O.D. x 20ft long) through manhole. Cutting into sections and install. Using hoist.
- 001.05425 hours per boiler tubes to replace
- VT 272 Remove and install boiler tube (up to 4" O.D. X 20ft long) through own hole.--Includes: Rip and collapse tube nipple; Burn cut tube into 2-sections; Burn/cut 2" and 3" long slit in tube; Enter and exit boiler fire box; pull tube through own hole; Mov door aside; Walk around work area as working; Measure and mark length of new tube; Roll, expand and bead both ends of new tube
- 001.01371 hours per Tube
- VT 306 Remove and install boiler tube (upto 4" O.D. x 20ft long)through own hole. Using hoist.
- 001.83638 hours per boiler tubes to replace
- VT 273 Remove air preheater tube (up to 4" O.D. X 20ft long) without cutting into small sections and install new one.--WITH USE OF HOIST.--Includes: Rip and collapse tube nipple; Burn/cut tube into 2-sections; Enter and leave firebox; move door aside; Walk around work area to perform duties; Measure and mark tube lengt and roll, expand amd bead both ends of new tube.
- 000.92447 hours per Tube

VT 307 Remove air preheater tube (without cutting into sections) and install. Using hoist.

001.04456 hours per preheater tubes to replace

VT 274 Remove and install tube sheet compartment door and door frame.  
--Includes: Remove and install pin in tube sheet door; Remove and install tube sheet door; Burn off and weld head on bolts; Remove and install tube sheet compartment door frame; and Walk around area to perform necessary duties.

000.80320 hours per Door and door frame

VT 308 Remove and install tube sheet compartment door and door frame. Includes using a hoist.

000.92608 hours per compartment doors to replace

VT 275 Install boiler tube (up to 4" O.D. x 20ft long).--WITH USE OF HOIST.--Includes: Measure and mark length of tube; Move tube to approximate location with hoist; Climb in and out of boiler fir box; Roll, expand and bead both ends of tube; and Walk around work area to perform duties.

000.71638 hours per Tube

VT 309 Install boiler tube (up to 4" O.D. x 20ft long).  
Not using hoist.

000.59638 hours per boiler tubes to install

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:	:	
:	Boiler Type - Sectional, Cast Iron, Low Pressure:	:
:	Remove & Install: Push nipples includes cleaning &	:
:	fabricating new gaskets.	:
:	(Average of 3 push nipples	:
:	per boiler section)	:
:	:	:
:	:	:

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TASK TIME STANDARDS LISTING

VT 276 Remove & install boiler section-(average 3 push nipples per 276  
boiler section)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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VT 276 Remove and install push nipples on a cast iron low pressure  
sectional boiler.--Includes: Open and close valve several times  
Remove and install--flange nuts and bolts; gaskets; unions; pip  
sections less than 2" long; draw nuts and bolts; boiler section  
and nipples.

003.49235 hours per Section (average 3 push nipples per section  
)

HEATERS, unit,space, - Remove, Install, Disassemble, Clean,  
water,etc. Lube, Inspect, Assemble

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: Heaters: Unit, Wall, Space, Floor, Hot Water -
: (Remove, install, disassemble, clean, lube, inspect, assemble)
:   CLEAN & INSPECT : Includes cleaning component parts & heater
:                     housing, lubrication of motors & blowers,
:                     and checking unit operation.          CONTINUED
:   INSTALL          : Includes assembling necessary parts, making
:                     any necessary brackets, putting unit in
:                     place & connecting fuel lines & vent
:                     stacks; use ladder or scaffold as required.
:   REPAIR           : Includes repair an average of two leaks.
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## TASK TIME STANDARDS LISTING

VT 284	Install	new unit heater
VT 278	Remove, clean, inspect, & install	heater
VT 279	Replace	old heater
VT 280	Remove, disassemble, clean, inspect, test, repair & install	heater
VT 277	Clean and inspect	heater
VT 286	Apartment sized SPACE HEATER/FLOOR FURNACE - disassemble, clean inspect, reassemble-does not include clean Chimney or Carb.	
VT 287	Apartment sized SPACE HEATER/FLOOR FURNACE - disassemble, clean inspect, reassemble-does include clean Chimney and Carburetor	
VT 288	HOT WATER heater, gas fired, 30 gallon	install
VT 290	HOT WATER heater, gas fired, 30 gallon	clean
VT 289	HOT WATER heater, gas fired, 30 gallon	remove & install
VT 291	Apartment sized GAS UNIT HEATER, disassemble, clean, lubricate, inspect, reassemble; includes cleaning chimney	

- VT 284 Install new unit heater.--WITH USE OF BLOCK AND TACKLE  
--Includes: Lash & unlash heater; Raise heater with block and tackle; Position heater; Install- mounting bolts & nuts; unions valve; nipples; strainer; Climb up & down scaffold; Open valve; Inspect for leaks; Fabricate, drill and install hangers; Move Scaffold; and Material handling.
- 002.77661 hours per Heater
- VT 278 Remove, clean, inspect and install unit heater.--USING BLOCK AND TACKLE.--Includes: Lower & raise heater; lash & unlash heater; Remove & install--mounting bolts & nuts; unions; valve; nipples & strainer; Climb up & down scaffold; Move scaffold; Remove & install screws and panel; Clean and lubricate motor; wire brush coils; Clean housing; Inspect for leaks; and Material handling.
- 003.28157 hours per Unit heater
- VT 279 Remove old unit heater and install new.--USING BLOCK AND TACKLE  
--Includes: Lower & raise heater; Lash & unlash heater; Remove install-mounting bolts & nuts; unions; valve; nipples; strainer Climb up and down scaffold; Move scaffold; inspect for leaks; Fabricate, drill and install hanger; Material handling.
- 003.76504 hours per Unit heater
- VT 280 Remove, disassemble, clean, inspect, test, repair, assemble, and install any size unit heater. Includes repair an average of two leaks. Use of scaffolding is included but erecting and dismantling is not.
- 005.39497 hours per Unit heater
- VT 277 Clean and inspect unit heater in place.--Includes: Remove and install screws and panel; Clean and lubricate motor; Wire brush coils; Clean housing; Inspect for leaks; Move scaffold; Climb u and down scaffold.
- 000.57999 hours per Unit heater
- VT 286 Clean oil-fired floor furnace or space heater (2.5ft X 2.5ft X 4ft).--Includes: Remove & install baffles; Clean inside & outside of heater/furnace; Turn oil supply valve off & on; Disconnect & connect oil supply line to filter; Remove & install filter container; Clean filter; Remove & install screws on carburetor top oil line to carburetor and strainer; Check and inspect; Mat hnd
- 000.54720 hours per Floor furnace/space heater (apartment size)



EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 287 Clean oil-fired floor furnace or space heater(2.5ft X 2.5ft X 4ft).Includes: Remove, clean & install pipe from heater to chimney; Clean chimney; Remove & install baffles; Clean inside & outside of heater/furnace; Clean oil filter; Remove & install screws on carburetor top, oil line to carburetor & strainer; Check & inspect; Get, ascend, descend and aside ladder; Material handling
- 000.96639 hours per Floor furnace/space heater (apartment size)
- VT 288 Install gas-fired water heater, 30 gal.  
--Includes: Place heater in location; connect water and gas supply lines; Install vent stack; Turn valve on and off; Fill heater with water; Check operation; and Material handling.
- 000.59842 hours per Heater
- VT 290 Clean gas-fired water heater, 30 gal.  
--Includes: Close and open valve; Clean and adjust main burner, pilot and thermocouple; Clean combustion chamber; Drain and fill heater with water; Light main burner and adjust flame; Check operation of safety pilot; Check operation of relief valve; Ascertain that heater cuts off at correct temperature.
- 000.87606 hours per Heater
- VT 289 Remove and install gas-fired water heater, 30 gal.  
--Includes: Turn valves off and on; Drain and fill water heater Disconnect and connect water and gas supply lines; Remove and install vent stack; Remove and locate water heater; Check operation; and Material handling.
- 001.23078 hours per Heater
- VT 291 Clean, lubricate and inspect unit heater (2.5ft X 2.5ft X 5ft).  
--includes: Turn gas off and on; Disconnect and connect electrical supply, Thermocoupling, pilot coupling & solenoid; Remove & install-covers, pilot light assy, burner, valve from solenoid pilot line, fitting to pilot light nozzle, filter; Clean nozzle valve; Knock soot from walls & vacuum; Light pilot & run unit.
- 000.74423 hours per Unit heater (apartment size)

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: Wall Furnaces, Gas or Oil, Install, Remove & Install, Clean
:   Install: Includes assembling necessary parts, making any
:             necessary brackets, putting unit in place &
:             connecting fuel lines & vent stacks, check
:             operation, use of scaffold as required.
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#### TASK TIME STANDARDS LISTING

VT 281	Wall furnace	gas or oil fired	install unit
VT 283	Wall furnace	gas or oil fired	remove & install unit
VT 282	Wall furnace	gas fired	clean unit
VT 285	Wall furnace	oil fired	clean unit

#### EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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VT 281 Install gas or oil-fired wall-type furnace.  
 --Includes: Place unit in proper location; Connect unions; install grills and panels; Install fasteners; Connect vent stack; Turn valve on and off; Check operation.

000.56104 hours per Furnace

VT 283 Remove and install gas or oil-fired wall furnace.  
 --Includes: Turn valve off and on; Disconnect and connect union Remove and install panel and grille; Remove and install fasteners; Remove and position furnace; Check operation; and Material handling.

001.06702 hours per Furnace

VT 282 Clean gas-fired wall furnace.  
 --Includes: Turn valve off and on; Disconnect and connect union Remove and install panel and grille; Remove and install fasteners; Clean furnace and wall openings; and Check operation.

000.59048 hours per Furnace

VT 285 Clean oil-fired forced hot air wall furnace.--Includes: Open and close valve; Drain oil; Remove and install fasteners; Disconnect and connect lines; Remove and install burner; Disassemble and assemble burners parts; Clean parts and burner; Clean firebox and air hot duct; Remove and install filter; Clean and lubricate motor; Light burner and adjust flame; Check and inspect.

000.93276 hours per Furnace

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:
: Blowers & Furnaces - Blowers, Miscellaneous:
:   disassemble, clean, lubricate, inspect, assemble, regulate
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#### TASK TIME STANDARDS LISTING

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VT 292  BLOWER UNIT  disassemble, clean, lube, inspect, assemble; cold
        water blower with (2) 8" centrifugal squirrel cage fans
VT 293  BLOWER UNIT  disassemble, clean, lube, inspect, assemble; with
        electric and pneumatic controls (4) centrifugal fans
VT 294  BLOWER UNIT  regulate blower unit thermostat & room thermostat
VT 295  FURNACE, HOT AIR, GUN TYPE, up to 770,000 BTU, off season
        maintenance
VT 297  FURNACE  clean fuel oil filter, renew element & gasket
VT 298  FURNACE  clean, inspect, adjust electrode/nozzle assembly
VT 299  FURNACE  service fuel unit, - includes fuel oil pump, forced
        draft blower & motor
VT 300  FURNACE  service - fire box and flue
VT 301  FURNACE  service - stack switch
VT 302  FURNACE  service - air circulation fan & motor
VT 303  FURNACE  conduct - furnace operational check

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#### EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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VT 292  Clean, inspect and lubricate cold water blower unit with 2-
        centrifugal (squirrel cage) fans (8" dia.).--Includes disconnect
        and connect electrical supply; Remove and install front cover,
        mounting bolts and nuts, Frame and blower assemble, filter; Wip
        & vacuum blower assemble and inside unit; and lubricate blower.

        000.35812 hours per Blower unit

VT 293  Clean, inspect, adjust and lubricate blower unit with 4-centri-
        fugal (squirrel cage) fans (8" dia.).--Includes turn motor off
        on with key; Disconnect and connect electrical supply; Remove &
        install front cover, cover plates, top cover, blower unit,
        bottom filter, plate to vent, filter to outside vent; Oil motor
        damper and all moving parts; Wipe and vacuum unit; Inspect unit

        000.93261 hours per Blower unit

VT 294  Regulate room and blower unit pneumatic thermostat.--Includes:
        Remove and install thermostat cover, cover plate, cover screw t
        needle valve, pin valve set screw, screw in filter line; air
        gauge in line; Install and remove branch line air gauge; Bleed
        air line; Adjust pin valve set screw, air gauge, thermostat; Ru
        unit to check adjustment; Walk around work area performing task

        001.00302 hours per thermostat (pneumatic)

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EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- VT 295 Hot air furnace, gun type, (up to 770,000 Btu) -- off season maintenance.--Includes: Clean, inspect and adjust electrode/nozzle assembly; Service oil pump, forced draft blower & motor; Remove and install oil filter; Service firebox, flue and stack switch; Service air circulation fan and motor; Conduct furnace operational check.
- 001.23804 hours per Furnace (hot air)
- VT 297 Clean fuel oil filter; renew element & gasket.--Includes: Close and open oil supply line; Remove and install oil filter container; Remove and install filter element; Pour remaining oil from container and wipe clean with cloth; Remove and install filter gasket; Open box and remove new filter and gasket; Wipe up spilled oil and inspect filter for leaks; Wipe tools w/cloth
- 000.07584 hours per Filter
- VT 298 Clean, inspect, adjust electrode/nozzle assembly.--Includes: Remove & install access panel or swing hinged transformer aside & back in place; Break & make up nozzle line connection; Detach & attach electrode lead; Remove & install electrode/nozzle assy Remove, clean, inspect & install nozzle and strainer; Clean, inspect & adjust electrode; Walk around work area to perform task
- 000.17254 hours per Electrode/nozzle assembly
- VT 299 Service fuel unit (fuel oil pump, forced draft blower and motor) --Includes: Disassemble and assemble oil pump; Remove & install oil strainer in pump head; Unpack new or clean old oil strainer Lubricate pump/forced draft blower motor; Clean up area with wiping cloth; Walk around work area to perform necessary duties
- 000.16876 hours per Fuel unit
- VT 300 Service furnace firebox and flue.--Includes: Remove & install access panel, firebox port cover & flue clean-out cover; Loosen residue in flue & firebox with scraper, scoop out bulk & vacuum out the remaining; Clean covers; Measure and cut asbestos rope for firebox port cover; Fit asbestos rope to firebox port cover Set up vacuum cleaner; Walk around work area to perform duties.
- 000.41183 hours per Furnace firebox and flue
- VT 301 Service furnace stack switch.--Includes: Remove and install stack switch cover; Check movement of relay manually; Inspect contacts, wiring, connections and relays for unsatisfactory conditions; Remove and install stack switch from/to mounting; Clean and inspect sensing element.
- 000.08928 hours per Stack switch

VT 302 Service air circulation fan and motor.--Includes: Turn furnace switch off and on; Remove and install access panel; Visually inspect interior of cabinet, fan, and fan motor; Rotate fan and motor by hand and check condition of belt; Inspect, clean, lubricate and adjust fan motor; Check and lubricate fan bearings; wipe interior of cabinet with cloth; Walk around work area.

000.20958 hours per Fan and motor

VT 303 Conduct furnace operational check.--Includes: Close and open fuel oil shutoff valve; Turn furnace switch/circuit breaker off and on; Remove and install stack switch; Observe and adjust flame to proper burn; Insure stack switch cycles furnace within proper time frame; Reset stack switch; Walk around work area to perform necessary duties.

000.11021 hours per Furnace

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:  
: Analyze Boiler Water Samples:  
: Analyze samples of boiler water from fire tube boilers  
: that are treated with chemicals.  
:  
:

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TASK TIME STANDARDS LISTING

VT 296 Analyze boiler water samples per boiler

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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VT 296 Analyze samples of boiler water from fire tube boilers that  
are treated with chemicals. \* an avg. of 8-boiler samples  
are analyzed daily.--Includes: Perform test to determine--solid  
content, phosphate content, tannin content and presence of  
causticity in boiler sample.

000.27255 hours per boiler sample

## TASK TIME STANDARDS DEVELOPMENT BACKUP

- VT 001 1 REMOVE AND INSTALL CHARGING PORT PROTECTIVE CAP \*A  
VG. OF 4 CAPS  
2 INSTALL AND REMOVE CHARGING MANIFOLD \*3 HOSES--RE  
MOVE AND INSTALL HOSES FROM/TO MANI- \*FOLD AND INST  
3 RELEASE AND TIGHTEN VALVES \*AVG. 8 OCCURRENCES  
4 CHARGE ANY SIZE AIR CONDITIONING SYSTEM WITH REFRI  
GERANT \*PER SYSTEM AND TONNAGE OUTPUT  
5 MOVE CYLINDER OF REFRIGERANT \*ADDITIONAL HANDLING  
OF CYLINDER AROUND WORK SITE \* \*CYLINDER OF 50# SI  
6 CHECK OPERATION OF SYSTEM \*REF. 3955 IS USED TO TE  
MP. ALLOW SYSTEM TO FUNCT- \*ION ,OLD REF WAS CLASS
- VT 002 1 REMOVE AND INSTALL VALVE CAP NUTS \* AVG. FOUR VALV  
E CAP NUTS PER COMPRESSOR  
2 INSTALL AND REMOVE GAUGE/HOSE MANIFOLD \* AVG. 2 HO  
SES PER PUMP DOWN  
3 RELEASE AND TIGHTEN VALVE \* 2 VALVES OPEN AND CLOS  
E 2 TIMES EACH  
4 RUN COMPRESSOR TO PUMP DOWN
- VT 003 1 REMOVE AND INSTALL VALVE CAP NUTS \* AVG. OF FOUR V  
ALVE CAP NUTS.  
2 INSTALL AND REMOVE GAUGE/HOSE MANIFOLD \* AVG. 2 HO  
SES PER PUMP DOWN  
3 RELEASE AND TIGHTEN VALVE \* AVG. 8 OCCURRENCES PER  
PUMP DOWN  
4 PUMP DOWN SYSTEM INTO RECEIVER
- VT 004 1 REMOVE AND INSTALL VALVE CAP NUTS \* AVG. 4 VALVE C  
AP NUTS PER COMPRESSOR  
2 INSTALL AND REMOVE GAUGE/HOSE MANIFOLD \* AVG. 2 HO  
SES PER PUMP DOWN 2 TIMES  
3 OPEN AND CLOSE VALVES \* 2 VALVES OPEN AND CLOSE 2-  
TIMES EACH  
4 PUMP AIR CONDITIONING SYSTEM DOWN INTO SEPARATE CY  
LINDER \* PER CYLINDER  
5 MOVE CYLINDER OF REFRIGERANT \* ADDITIONAL HANDLING  
OF CYLINDER AROUND WORK SITE \* \* CYLINDER OF 50#
- VT 005 1 REMOVE AND INSTALL VALVE CAP NUTS \* AVG. FOUR VALV  
E CAP NUTS PER COMPRESSOR  
2 INSTALL AND REMOVE GAUGE/HOSE MANIFOLD \* TWO HOSES  
REQUIRED TO MONITOR VACUUM  
3 OPEN AND CLOSE COMPRESSOR SERVICE VALVES \*AVG. 8 O  
CCURENCES PER PUMPDOWN  
4 PULL VACUUM \* USING 1/4 HP VACUUM PUMP ON 10 TON S  
YSTEM
- VT 006 1 PUMP DOWN COMPRESSOR  
2 REMOVE AND INSTALL BOLTS IN INTAKE AND DISCHARGE V  
ALVES \* AVG. 4 BOLTS PER VALVE  
3 REMOVE AND INSTALL INTAKE AND DISCHARGE VALVES \* P  
ULL VALVES AWAY FROM AND PUSH VALVES TO \*\* COMPRES  
4 REMOVE AND INSTALL OIL LINE AND GAGES  
5 REMOVE AND INSTALL BOLTS IN VALVE FITTINGS \* AVG 4  
BOLTS PER FITTING; AVG. 4 FITTINGS  
6 REMOVE AND INSTALL VALVE FITTINGS \* FOUR FITTINGS  
7 PLUG AND UNPLUG PORT OPENINGS \* 1 OPENING PER FITT  
ING; 4 FITTINGS  
8 PULL AWAY AND PUSH VALVE TO COMPRESSOR \* 4 VALVES  
9 REMOVE AND INSTALL BOLTS FOR BELT GUARD \* AVG. FOU  
R BOLTS

- 10 REMOVE AND INSTALL BELT GUARD
- 11 LOOSEN AND TIGHTEN MOTOR BASE BOLTS \* AVG. FOUR BOLTS
- 12 REMOVE AND INSTALL BELTS \* AVG. FOUR BELTS
- 13 REMOVE AND INSTALL COMPRESSOR BASE BOLTS \*AVG. 4 BOLTS
- 14 REMOVE AND INSTALL COMPRESSOR
- 15 REMOVE AND INSTALL FLYWHEEL
- 16 CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM \*\*AVG. 10 TON OUTPUT CHARGE PER SYSTEM LOSS
- 17 PUT COMPRESSOR INTO OPERATION
- 18 CHECK OPERATION OF SYSTEM
- 19 MATERIAL HANDLING



VT 007 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 DISCONNECT WIRING TO MOTOR  
4 PLUG AND UNPLUG UNIT  
5 REMOVE AND INSTALL BASE BOLTS  
6 REMOVE AND INSTALL MOTOR  
7 REMOVE AND INSTALL BELT  
8 CHECK OPERATION OF MOTOR  
9 MATERIAL HANDLING

VT 008 1 REMOVE AND INSTALL ACCESS PANEL \* AVERAGE 2 PANELS  
PER UNIT  
2 PUMP AIR CONDITIONING SYSTEM DOWN INTO SEPARATE CY  
LINDER \*1 CYLINDER  
3 REMOVE AND INSTALL FITTING  
4 PLUG AND UNPLUG PORT OPENING  
5 PREPARE TO REMOVE AIR COOLED CONDENSER  
6 REMOVE AND INSTALL BOLT  
7 REMOVE AND INSTALL CONDENSER  
8 PUT AIR COOLED CONDENSER INTO OPERATION  
9 CHARGE PACKAGE-TYPE/SELF-CONTAINED AIR CONDITIONIN  
G SYSTEM AFTER REPAIR \* AVG. 5 TON OUTPUT CHARGE P  
10 MATERIAL HANDLING \* ADDITIONAL POSITIONING OF UNIT  
11 CHECK OPERATION OF SYSTEM

VT 009 1 PUMP DOWN 25-99 TON SYSTEM INTO SEPARATE CYLINDERS  
2 REMOVE AND INSTALL SCREW  
3 REMOVE AND INSTALL PANEL  
4 REMOVE AND INSTALL FITTING  
5 PLUG AND UNPLUG PORT OPENINGS  
6 PREPARE TO REMOVE CONDENSER  
7 REMOVE AND INSTALL BOLT  
8 REMOVE AND INSTALL CONDENSER  
9 PUT CONDENSER INTO OPERATION  
10 CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING  
SYSTEM \* AVG. 25 TON OUTPUT CHARGE PER SYSTEM LOS  
11 CHECK OPERATION OF SYSTEM  
12 MATERIAL HANDLING

VT 010 1 PUMP SYSTEM DOWN INTO SEPARATE CYLINDERS  
2 REMOVE AND INSTALL FITTINGS  
3 PLUG AND UNPLUG PORT OPENINGS  
4 REMOVE AND INSTALL BOLT  
5 PREPARE TO REMOVE SHELL AND TUBE CONDENSER  
6 REMOVE AND INSTALL CONDENSER  
7 PUT CONDENSER INTO OPERATION  
8 CHARGE AIR CONDITIONING SYSTEM WITH REFRIGERANT AF  
TER PUMPDOWN \* AVG. 25 TON OUTPUT PER SYSTEM  
9 DRAIN AND FILL CONDENSER  
10 CHECK OPERATION OF SYSTEM  
11 MATERIAL HANDLING

VT 011 1 REMOVE AND INSTALL ACCESS PANEL \* AVERAGE (2) PANELS PER UNIT  
2 PREPARE TO REMOVE UNIT  
3 REMOVE AND INSTALL FITTINGS  
4 REMOVE AND INSTALL BOLTS  
5 REMOVE AND INSTALL UNIT  
6 PUT UNIT INTO OPERATION  
7 CHECK OPERATION OF SYSTEM  
8 MATERIAL HANDLING \* ADDITIONAL POSITIONING OF CONDENSER UNIT

VT 012 1 REMOVE AND INSTALL ACCESS PANEL \* AVERAGE (2) PANELS PER UNIT  
2 PUMP DOWN SYSTEM INTO RECEIVER  
3 REMOVE AND INSTALL FITTING  
4 PLUG AND UNPLUG PORT OPENINGS  
5 PREPARE TO REMOVE EVAPORATOR  
6 REMOVE AND INSTALL BOLT  
7 REMOVE AND INSTALL EVAPORATOR  
8 PUT EVAPORATOR INTO OPERATION  
9 CHARGE 25-99 TON AIR CONDITIONING SYSTEM AFTER REPAIR \* AVG. 25 TON OUTPUT CHARGE PER SYSTEM LOST DUE TO  
10 CHECK OPERATION OF SYSTEM  
11 MATERIAL HANDLING \* ADDITIONAL POSITIONING OF EVAPORATOR

VT 013 1 REMOVE AND INSTALL VALVE OR RECEIVER FLANGES  
2 REMOVE AND INSTALL RECEIVER \* REPLACE RECEIVER 1/2 THE TIME  
3 CHECK OPERATION OF SYSTEM  
4 CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM \* AVG. 17 TON SYSTEM  
5 PUMP DOWN OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM \* AVG. 3 CYLINDERS PER SYSTEM

VT 014 1 PUMP DOWN SYSTEM INTO RECEIVER  
2 REMOVE AND INSTALL FITTING \* AVG. THREE FITTINGS  
3 PLUG AND UNPLUG PORT OPENINGS \* AVG. SIX OPENINGS  
4 PREPARE TO REMOVE EXPANSION VALVE  
5 REMOVE AND INSTALL EXPANSION VALVE  
6 PUT EXPANSION VALVE INTO OPERATION  
7 CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM \* AVG. 25 TON OUTPUT CHARGE PER SYSTEM LOST  
8 CHECK OPERATION OF SYSTEM  
9 MATERIAL HANDLING

VT 015 1 PUMP SYSTEM DOWN INTO RECEIVER  
2 REMOVE AND INSTALL SCREWS \* AVG. TWELVE SCREWS  
3 PREPARE TO REMOVE DRYER/STRAINER  
4 REMOVE AND INSTALL DRYER/STRAINER  
5 REMOVE AND INSTALL DRYER/STRAINER INSERT  
6 PUT DRYER/STRAINER INTO OPERATION  
7 MATERIAL HANDLING

VT 016 1 REMOVE CARDBOARD CONTAINER  
2 REMOVE AND INSTALL SCREWS  
3 REMOVE AND INSTALL PANEL  
4 REMOVE AND INSTALL UNIT IN CABINET  
5 REMOVE BOLT FROM CRATE  
6 RAISE AND LOWER WINDOW  
7 INSTALL CABINET IN WINDOW  
8 INSTALL LEVELING ARM  
9 LOOSEN AND TIGHTEN LEVELING SCREW  
10 MEASURE, MARK AND CUT FILLER PANEL  
11 INSTALL FILLER PANEL  
12 INSTALL WEATHER STRIPPING  
13 INSTALL CAULKING  
14 INSTALL PLUG  
15 CHECK OPERATION OF UNIT  
16 MATERIAL HANDLING

VT 017 1 REMOVE FACE PANEL SCREWS  
2 REMOVE FACE PANEL  
3 REMOVE UNIT FROM CABINET  
4 RAISE AND LOWER WINDOW  
5 REMOVE WEATHER STRIPPING  
6 REMOVE FILLER PANEL  
7 LOOSEN LEVELING SCREW  
8 REMOVE CABINET FROM WINDOW  
9 INSTALL UNIT IN CABINET  
10 INSTALL FACE PANEL  
11 INSTALL SCREWS  
12 MATERIAL HANDLING

VT 018 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL ACCESS PANEL  
3 REMOVE AND INSTALL OIL FILLER TUBE  
4 REMOVE AND INSTALL BOLT  
5 REMOVE AND INSTALL BEARING CAP  
6 LOOSEN AND TIGHTEN BEARING RETAINER BOLT  
7 MOVE BEARING DOWN SHAFT  
8 REMOVE AND INSTALL HOUSING NUTS  
9 REMOVE AND INSTALL HOUSING BOLTS  
10 REMOVE AND INSTALL BEARING HOUSING  
11 BURN HOUSING WITH TORCH  
12 REMOVE AND INSTALL BEARING NUTS  
13 REMOVE AND INSTALL BEARING BOLTS  
14 BURN HOLES FOR HOUSING BOLTS  
15 FILL OIL FILLER TUBE WITH OIL  
16 CHECK OPERATION FOR BEARING  
17 MATERIAL HANDLING

VT 019 1 REMOVE AND INSTALL PIPE FITTINGS  
2 DRAIN AND FILL TUBES  
3 REMOVE AND INSTALL NUT  
4 REMOVE AND INSTALL END PLATES  
5 PUNCH 220 TUBES UP TO 14FT LONG AND 1" O.D.  
6 CUT GASKET \* AVG. OF 2 GASKETS  
7 PUNCH HOLES IN GASKET  
8 INSTALL GASKET  
9 MATERIAL HANDLING  
10 GET, ASCEND, DESCEND, AND ASIDE LADDER

VT 020 1 REMOVE AND INSTALL PIPE FITTING  
2 DRAIN AND FILL TUBES  
3 REMOVE AND INSTALL NUT  
4 REMOVE AND INSTALL END PLATES  
5 PUNCH TUBES UP TO 25FT LONG AND 1" O.D.  
6 CUT AVG. OF 2 GASKETS  
7 PUNCH 32 HOLES IN GASKET  
8 INSTALL GASKET  
9 MATERIAL HANDLING  
10 GET, ASCEND, DESCEND, AND ASIDE LADDER

VT 021 1 REMOVE AND INSTALL NUT OR SCREW  
2 REMOVE AND INSTALL PANEL  
3 REMOVE AND INSTALL FILTER  
4 MATERIAL HANDLING  
5 GET, ASCEND, DESCEND, AND ASIDE LADDER

VT 022 1 TURN POWER ON AND OFF  
2 REMOVE AND INSTALL SCREWS ON BELT GUARD \* AVG. 4 S  
CREWS  
3 REMOVE AND INSTALL BELT GUARD  
4 LOOSEN AND TIGHTEN MOTOR BASE BOLTS \* AVG. 4 BOLTS  
5 LOOSEN AND TIGHTEN ADJUSTING SCREW  
6 PRY MOTOR TO LOOSEN AND TIGHTEN  
7 REMOVE AND INSTALL BELTS \* AVG. 3 BELTS PER SYSTEM  
8 CHECK OPERATION  
9 MATERIAL HANDLING

VT 023 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 REMOVE AND INSTALL FLOAT ASSEMBLY  
4 ADJUST FLOAT LINKAGE  
5 CHECK OPERATION

VT 024 1 REMOVE CARDBOARD CONTAINER  
2 REMOVE AND INSTALL SCREWS  
3 REMOVE AND INSTALL PANEL  
4 REMOVE AND INSTALL UNIT IN CABINET  
5 LAYOUT AREA TO BE REMOVED FROM WINDOW  
6 REMOVE WINDOW PANES  
7 CUT FRAME WITH TORCH  
8 REMOVE BOLT FROM CRATE  
9 INSTALL MOUNTING FRAME  
10 INSTALL CABINET IN WINDOW  
11 INSTALL LEVELING ARM  
12 LOOSEN AND TIGHTEN LEVELING SCREW  
13 MEASURE, MARK AND CUT FILLER PANEL  
14 INSTALL FILLER PANEL  
15 INSTALL WEATHER STRIPPING  
16 INSTALL CAULKING  
17 INSTALL PLUG  
18 SECURE PANELS TO WINDOW  
19 CHECK OPERATION OF UNIT  
20 ADJUST UNIT  
21 MATERIAL HANDLING

VT 025 1 REMOVE AND INSTALL FILLING PIPE  
2 DRAIN AND FILL TUBES \* PER GALLON  
3 REMOVE AND INSTALL NUT  
4 REMOVE AND INSTALL PLATE COVER  
5 PUNCH CLEAN TUBE UP TO 14FT LONG, UP TO 1" O.D.  
6 DRY TUBE WITH RAG  
7 CUT 2 GASKETS UP TO 2 SQ. FT. EACH  
8 MARK AND PUNCH 32 HOLES IN GASKET  
9 INSTALL GASKETS  
10 MATERIAL HANDLING

VT 026 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT BEARINGS  
4 GREASE BEARINGS  
5 FILL OUT INSPECTOR REPORT  
6 TURN SWITCH OFF

VT 027 1 PREPARE AND PUMP DOWN SYSTEM INTO RECEIVER  
2 CHECK SYSTEM FOR LEAKS AND NOTE  
3 TURN SWITCH OFF  
4 FILL OUT INSPECTORS REPORT

VT 028 1 REMOVE AND INSTALL PIPE FITTINGS  
2 DRAIN AND FILL TUBES \* PER GALLON  
3 REMOVE AND INSTALL NUT  
4 REMOVE AND INSTALL COVER PLATE  
5 PUNCH CLEAN TUBE UP TO 25FT LONG, UP TO 1" O.D.  
6 DRY TUBE WITH RAG  
7 CUT 2 GASKETS OVER 2 SQ. FT.  
8 MARK AND PUNCH 32 HOLES IN GASKET  
9 INSTALL GASKET  
10 MATERIAL HANDLING

VT 029 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT BEARINGS  
4 DRAIN WATER  
5 TURN SWITCH OFF  
6 FILL OUT INSPECTOR REPORT

VT 030 1 REMOVE AND INSTALL SCREWS  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT BEARINGS  
4 DRAIN WATER  
5 FILL OUT INSPECTOR REPORT  
6 TURN SWITCH OFF

VT 031 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT BEARINGS  
4 FILL OUT INSPECTOR REPORT  
5 TURN OFF SWITCH

VT 032 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL SCREEN  
3 SENSORY INSPECT BEARINGS AND GEAR BOXES  
4 PREPARE TOWER TO DRAIN  
5 TURN OFF POWER  
6 FILL OUT INSPECTOR REPORT

VT 033 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL SCREEN  
3 SENSORY INSPECT BEARING AND GEAR BOXES  
4 PREPARE TOWER TO DRAIN  
5 TURN OFF POWER  
6 FILL OUT INSPECTOR REPORT

VT 034 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 PREPARE AND RUN COMPRESSOR TO PUMP DOWN INTO RECEIVER  
4 SENSORY INSPECT BEARINGS  
5 TURN POWER OFF  
6 FILL OUT INSPECTOR REPORT

VT 035 1 WALK AROUND WORK AREA TO DIFFERENT LOCATION \* AVG.  
100-PACES  
2 LOCATE UNIT IN COMPARTMENT AND VISUALLY INSPECT  
3 TURN OFF SWITCH  
4 UNPLUG UNIT FROM POWER SOURCE  
5 TIE UP ELECTRICAL CORD  
6 INSTALL, ASCEND, DESCEND AND REMOVE STEP LADDER  
7 OBTAIN AND ASIDE COVER AND ROLL OF TAPE  
8 PLACE COVER OVER UNIT  
9 TAPE EDGES OF COVER \* AVG. 10-FT.  
10 FILL OUT RECORD SHEET

VT 036 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT BEARINGS  
4 REMOVE AND INSTALL DISPOSABLE FILTER  
5 FILL OUT INSPECTION REPORT

VT 037 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 GREASE BLOWER BEARING FITTINGS  
4 LUBRICATE OIL CUP  
5 SENSORY INSPECT MOTOR  
6 SENSORY INSPECT BLOWER  
7 WIPE COMPRESSOR AND MOTOR  
8 INSPECT SIGHT GLASS  
9 INSPECT FOR LEAKS  
10 REMOVE AND INSTALL DISPOSABLE FILTER  
11 ADJUST FAN ASSEMBLY MOTOR PULLEY  
12 ADD OIL TO CRANKCASE  
13 FILL OUT INSPECTION REPORT

VT 038 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECTION FAN MOTOR  
4 GREASE BEARINGS  
5 ADJUST BELT TENSION  
6 REMOVE AND INSTALL DISPOSABLE FILTER  
7 FILL OUT INSPECTION REPORT

VT 039 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 LUBRICATE BEARINGS  
4 ADJUST BELT TENSION  
5 SENSORY INSPECT FAN AND MOTOR  
6 FILL OUT INSPECTOR REPORT

VT 040 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 LUBRICATE BEARINGS, FAN, MOTORS, AND PUMP  
4 ADJUST BELT TENSION  
5 ADJUST FLOAT  
6 SENSORY INSPECT BEARINGS  
7 FILL OUT INSPECTOR REPORT

VT 041 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 GREASE BLOWER BEARING FITTING  
4 LUBRICATE OIL CUP  
5 SENSORY INSPECT FAN  
6 SENSORY INSPECT BLOWER  
7 WIPE MOTOR AND CONDENSER  
8 INSPECT SIGHT GLASS  
9 INSPECT FOR LEAKS  
10 REMOVE AND INSTALL DISPOSABLE FILTER  
11 FILL OUT INSPECTION REPORT

VT 042 1 WIPE COMPRESSOR AND MOTOR  
2 ADJUST BELT TENSION  
3 INSPECT SIGHT GLASS AND GAGES  
4 LUBRICATE BEARINGS  
5 ADD OIL  
6 INSPECT FOR LEAKS  
7 CHECK FOR PROPER OPERATION  
8 FILL OUT INSPECTION REPORT

VT 043 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 PULL UNIT PARTIALLY INSIDE WINDOW AND SLIP BACK  
4 CLEAN UNIT INSIDE CABINET  
5 GREASE BLOWER BEARING FITTING  
6 LUBRICATE OIL CUP  
7 SENSORY INSPECT FAN  
8 SENSORY INSPECT BLOWER  
9 REMOVE AND INSTALL DISPOSABLE FILTER  
10 MATERIAL HANDLING

VT 044 1 WIPE COMPRESSOR AND MOTOR  
2 CHECK MOTOR ALIGNMENT AND ADJUST  
3 INSPECT SIGHT GLASS AND GAUGES  
4 LUBRICATE BEARINGS  
5 ADD OIL  
6 DRAIN AIR TANK  
7 INSPECT FOR LEAKS  
8 CHECK FOR PROPER OPERATION  
9 FILL OUT INSPECTOR REPORT

VT 045 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 LUBRICATE BEARINGS, FAN, MOTOR AND PUMP  
4 ADJUST BELT TENSION  
5 ADJUST FLOAT  
6 SENSORY INSPECT BEARINGS  
7 FILL OUT INSPECTOR REPORT

VT 046 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 LUBRICATE BLOWER BEARINGS  
4 LUBRICATE OIL CUP  
5 SENSORY INSPECT PUMP  
6 SENSORY INSPECT BLOWER  
7 CLEAN SQUIRREL CAGE FAN  
8 WIPE MOTOR AND COMPRESSOR  
9 BRUSH COOLING COILS  
10 INSPECT SIGHT GLASS  
11 INSPECT FOR LEAKS  
12 REMOVE AND INSTALL DISPOSABLE FILTER  
13 REMOVE AND INSTALL BELT  
14 ADJUST PULLEY  
15 CHARGE PACKAGE-TYPE/SELF-CONTAINED AIR CONDITIONIN  
G SYSTEM \*AVG. 10 TON OUTPUT CHARGE PER SYSTEM LOS  
16 PUMP DOWN COMPRESSOR  
17 ADD OIL TO CRANKCASE  
18 CLEAN INTERIOR CABINET BY SCRAPING AND WIPING

VT 047 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL SCREEN  
3 CLEAN FAN  
4 CLEAN, LUBRICATE, INSPECT AND ADJUST MOTOR  
5 ADD OIL TO GEAR BOX  
6 REMOVE AND INSTALL GEAR BOX PLUG  
7 ADJUST BELT TENSION  
8 LUBRICATE FAN AND PUMP  
9 SENSORY INSPECT BEARINGS  
10 ADJUST FLOAT ASSEMBLY  
11 FILL OUT INSPECTOR REPORT



VT 048 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL SCREEN  
3 CLEAN FAN  
4 CLEAN, LUBRICATE, INSPECT AND ADJUST MOTOR  
5 REMOVE AND INSTALL GEAR BOX PLUG  
6 ADD OIL TO GEAR BOX  
7 ADJUST BELT TENSION  
8 LUBRICATE BEARINGS  
9 SENSORY INSPECT BEARINGS  
10 ADJUST FLOAT ASSEMBLY  
11 FILL OUT INSPECTOR REPORT

VT 049 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECTION SQUIRREL CAGE FAN AND MOTOR  
4 CLEAN SQUIRREL CAGE FAN  
5 CLEAN COOLING COILS \* BOTH SIDES, 20 SQ. FT.  
6 CLEAN AIR PLENUM  
7 GREASE FAN BEARINGS  
8 ADJUST FAN MOTOR PULLEYS

VT 050 1 WIPE COMPRESSOR AND MOTOR  
2 REMOVE AND INSTALL BELT  
3 ADJUST BELT TENSION AND ALIGNMENT  
4 DRAIN OIL FROM CRANKCASE  
5 FILL CRANKCASE WITH OIL  
6 PREPARE AND RUN TO PUMP DOWN  
7 INSPECT SIGHT GLASS  
8 CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING  
SYSTEM \* AVG. 1 TON OUTPUT CHARGE PER SYSTEM LOST  
9 INSPECT FOR LEAKS  
10 LUBRICATE MOTOR BEARINGS  
11 CHECK FOR PROPER OPERATION

VT 051 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECTION SQUIRREL CAGE AND FAN AND MOTOR  
4 CLEAN SQUIRREL CAGE FAN  
5 CLEAN COOLING AND HEATING COILS \* BOTH SIDES, 40 S  
Q. FT.  
6 CLEAN AIR PLENUM (CLEAN AVG. OF 40 SQ. FT.)  
7 GREASE FAN BEARINGS  
8 ADJUST FAN MOTOR PULLEYS

VT 052 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT SQUIRREL CAGE FAN AND MOTOR  
4 CLEAN SQUIRREL CAGE FAN  
5 CLEAN COOLING COILS \* BOTH SIDES, 90 SQ. FT.  
6 CLEAN AIR PLENUM (AVG. OF 180 SQ. FT.)  
7 GREASE FAN BEARINGS  
8 ADJUST FAN MOTOR PULLEY

VT 053 1 WIPE COMPRESSOR AND MOTOR  
2 CHECK AND ADJUST MOTOR ALIGNMENT COUPLINGS  
3 LUBRICATE MOTOR AND COUPLING  
4 DRAIN OIL FROM CRANKCASE  
5 FILL CRANKCASE WITH OIL  
6 PREPARE AND RUN TO PUMP DOWN  
7 INSPECT SIGHT GLASS  
8 CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING  
SYSTEM \*AVG. 50 TON OUTPUT CHARGE PER SYSTEM LOST  
9 CHECK FOR LEAKS  
10 CHECK SAFETY DEVICES  
11 DRAIN WATER FROM AIR TANK  
12 LUBRICATE AIR COMPRESSOR  
13 REMOVE AND INSTALL DRYER

VT 054 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 REMOVE AND INSTALL SLAT  
4 TIGHTEN FLANGE NUT  
5 CLEAN INSIDE TOWER WITH WATER HOSE  
6 CLEAN INSIDE TOWER BY SCRAPING, BRUSHING AND WIPIN  
G  
7 CLEAN FAN  
8 LUBRICATE FAN  
9 CLEAN, LUBRICATE AND ADJUST MOTOR  
10 REMOVE AND INSTALL BELT  
11 CLEAN WATER PUMP  
12 LUBRICATE WATER PUMP  
13 REMOVE AND INSTALL FLOAT  
14 CLEAN FLOAT  
15 ADJUST FLOAT  
16 PREPARE TO DRAIN OR FILL TOWER

VT 055 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT SQUIRREL CAGE FAN AND MOTOR  
4 CLEAN SQUIRREL CAGE FAN  
5 CLEAN COOLING AND HEATING COILS \* BOTH SIDES, 180  
SQ. FT.  
6 CLEAN AIR PLENUM (AVG. 180 SQ. FT.)  
7 GREASE FAN BEARINGS  
8 ADJUST FAN MOTOR PULLEYS

VT 056 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 CLEAN INSIDE CABINET WITH HOSE (AVG. 48 SQ. FT.)  
4 CLEAN INSIDE CABINET BY SCRAPING, BRUSHING AND WIP  
ING. (AVG. 20 SQ. FT.)  
5 CLEAN BLOWER FAN  
6 LUBRICATE FAN  
7 CLEAN, LUBRICATE, INSPECT AND ADJUST MOTOR  
8 REMOVE AND INSTALL BELT  
9 CLEAN WATER PUMP  
10 LUBRICATE WATER PUMP  
11 REMOVE AND INSTALL SPRAY NOZZLE  
12 CLEAN SPRAY NOZZLE  
13 REMOVE AND INSTALL FLOAT  
14 CLEAN FLOAT  
15 ADJUST FLOAT  
16 DRAIN AND FILL CONDENSER

VT 057 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT SQUIRREL CAGE FAN AND MOTOR  
4 CLEAN SQUIRREL CAGE FAN  
5 CLEAN COOLING COILS \* BOTH SIDES, 260 SQ. FT.  
6 CLEAN AIR PLENUM (AVG. OF 520 SQ. FT.)  
7 GREASE FAN BEARINGS  
8 ADJUST FAN MOTOR PULLEY

VT 058 1 REMOVE AND INSTALL SCREWS  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT SQUIRREL CAGE FAN AND MOTOR  
4 CLEAN SQUIRREL CAGE FAN  
5 CLEAN COOLING AND HEATING COILS \* BOTH SIDES, 520 SQ. FT.  
6 CLEAN AIR PLENUM (AVG. OF 520 SQ. FT.)  
7 GREASE FAN BEARINGS  
8 ADJUST FAN MOTOR PULLEY

VT 059 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 REMOVE AND INSTALL SLAT  
4 TIGHTEN FLANGE NUT  
5 CLEAN INSIDE OF TOWER WITH WATER HOSE  
6 CLEAN INSIDE OF TOWER BY SCRAPING, BRUSHING AND WIPING  
7 CLEAN FAN  
8 LUBRICATE FAN  
9 CLEAN, LUBRICATE, AND ADJUST MOTOR  
10 REMOVE AND INSTALL BELT  
11 CLEAN WATER PUMP  
12 LUBRICATE WATER PUMP  
13 REMOVE AND INSTALL FLOAT  
14 CLEAN FLOAT  
15 ADJUST FLOAT  
16 PREPARE TO DRAIN OR FILL TOWER  
17 REMOVE AND INSTALL GEAR BOX PLUG  
18 ADD OIL TO GEAR BOX

VT 060 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 SENSORY INSPECT FAN AND MOTOR  
4 GREASE BEARINGS  
5 ADJUST BELT TENSION  
6 REMOVE AND INSTALL DISPOSABLE FILTER  
7 FILL OUT INSPECTION REPORT

VT 061 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 CLEAN INSIDE CABINET WITH WATER HOSE  
4 CLEAN INSIDE OF CABINET BY SCRAPING, BRUSHING AND WIPING  
5 CLEAN BLOWER FAN  
6 LUBRICATE BLOWER FAN  
7 CLEAN, LUBRICATE, INSPECT AND ADJUST MOTOR  
8 REMOVE AND INSTALL BELT  
9 CLEAN WATER PUMP  
10 LUBRICATE WATER PUMP  
11 REMOVE AND INSTALL NOZZLES  
12 CLEAN NOZZLES  
13 REMOVE AND INSTALL FLOAT  
14 CLEAN FLOAT  
15 ADJUST FLOAT  
16 REMOVE AND INSTALL BAFFLE  
17 DRAIN AND FILL CONDENSER

VT 062 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 CLEAN INSIDE CABINET WITH WATER HOSE  
4 CLEAN INSIDE OF CABINET BY SCRAPING, BRUSHING AND  
WIPING  
5 CLEAN FAN  
6 LUBRICATE FAN  
7 CLEAN, LUBRICATE AND ADJUST MOTOR  
8 REMOVE AND INSTALL BELT

VT 063 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 CLEAN INSIDE CABINET WITH WATER HOSE  
4 CLEAN INSIDE CABINET BY SCRAPING, BRUSHING AND WIP  
ING  
5 CLEAN BLOWER FAN  
6 LUBRICATE FAN  
7 CLEAN, LUBRICATE AND ADJUST MOTOR  
8 REMOVE AND INSTALL BELT  
9 CLEAN WATER PUMP  
10 LUBRICATE WATER PUMP  
11 REMOVE AND INSTALL NOZZLE  
12 CLEAN NOZZLE  
13 REMOVE AND INSTALL FLOAT  
14 CLEAN FLOAT  
15 ADJUST FLOAT  
16 REMOVE AND INSTALL BAFFLE  
17 FILL AND DRAIN CONDENSER

VT 064 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 CLEAN INSIDE OF CABINET WITH WATER  
4 CLEAN INSIDE CABINET BY SCRAPING, BRUSHING AND WIP  
ING  
5 CLEAN FAN  
6 LUBRICATE FAN  
7 CLEAN, LUBRICATE AND ADJUST MOTOR  
8 REMOVE AND INSTALL BELT  
9 MATERIAL HANDLING

VT 065 1 REMOVE AND INSTALL WING NUT OR SCREW  
2 REMOVE AND INSTALL PANEL  
3 REMOVE AND INSTALL 100 DISPOSABLE FILTERS AVG. 10  
PLENUMS PER 100 FILTERS  
4 MATERIAL HANDLING  
5 GET, ASCEND, DESCEND, AND ASIDE LADDER

VT 066 1 REMOVE AND INSTALL PIPE FITTING  
2 DRAIN AND FILL TUBES \* PER GALLON  
3 REMOVE AND INSTALL LARGE NUT  
4 REMOVE AND INSTALL END PLATES  
5 PUNCH CLEAN TUBE UP TO 12 FEET LONG  
6 DRY TUBE WITH RAG  
7 CUT 2 GASKETS  
8 PUNCH 32 HOLES IN GASKET  
9 INSTALL GASKET  
10 MATERIAL HANDLING  
11 GET, ASCEND, DESCEND, AND ASIDE LADDER

VT 067 1 RUN COMPRESSOR TO PUMPDOWN  
2 REMOVE AND INSTALL COMPRESSOR HEAD BOLTS \*AVG. 12  
BOLTS PER HEAD - 2 HEADS PER COMPRESSOR  
3 REMOVE HEAD PLATE COVER \* AVG. PRYING 3-TIMES PER  
COVER \* \* 2 COVERS PER SYSTEM  
4 REMOVE AND INSTALL VALVE PLATE BOLTS \* AVG. 8 BOLT  
S PER VALVE PLATE -- \* \* 2 PLATES PER SYSTEM  
5 REMOVE VALVE PLATE \* AVG. PRYING PLATE 3-TIMES - 2  
PLATES  
6 REMOVE AND INSTALL GASKET ON VALVE PLATE OR HEAD C  
OVER \* 2 VALVE PLATES AND 2 HEAD COVERS  
7 INSTALL VALVE PLATE OR HEAD COVER \* 2 VALVE PLATES  
AND 2 HEAD COVERS  
8 PULL VACUUM ON SYSTEM  
9 CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING  
SYSTEM \* AFTER COMPRESSOR OVERHAUL, SYSTEM REQUIRE  
10 PUT SYSTEM INTO OPERATION

VT 068 1 REMOVE AND INSTALL SCREWS  
2 REMOVE AND INSTALL DOOR PANEL  
3 REMOVE AND INSTALL GASKET  
4 ADJUST PANEL AND GASKET TO HOLES  
5 ALIGN AND ADJUST DOOR  
6 CHECK DOOR FOR FIT  
7 CLEAN DOOR

VT 069 1 REMOVE AND INSTALL SCREW  
2 REMOVE AND INSTALL PANEL  
3 LOOSEN AND TIGHTEN BASE BOLTS  
4 REMOVE AND INSTALL BELT  
5 ADJUST TENSION ON BELT  
6 PLUG AND UNPLUG UNIT  
7 CHECK OPERATION

VT 070 1 OPEN AND CLOSE VALVES  
2 REMOVE AND INSTALL VALVE BOLTS  
3 REMOVE AND INSTALL SERVICE VALVE AND GASKETS  
4 REMOVE AND INSTALL DRAIN PLUG  
5 DRAIN AND FILL CRANK CASE  
6 REMOVE AND INSTALL HEAD BOLTS  
7 REMOVE AND INSTALL PLATE AND GASKET  
8 REMOVE AND INSTALL VALVE PLATE SCREW  
9 REMOVE AND INSTALL VALVE PLATE AND GASKET  
10 REMOVE AND INSTALL BASE PLATE BOLTS  
11 REMOVE AND INSTALL BASE PLATE AND GASKET  
12 REMOVE AND INSTALL SEAL PLATE BOLTS  
13 REMOVE AND INSTALL FLYWHEEL SHAFT KEY  
14 REMOVE AND INSTALL SEAL PLATE, BELLOWS AND GASKET  
15 REMOVE AND INSTALL SHAFT COLLAR  
16 REMOVE AND INSTALL THRUST NUT  
17 REMOVE AND INSTALL THRUST BEARING AND WASHERS  
18 REMOVE AND INSTALL CONNECTING ROD BOLTS  
19 REMOVE AND INSTALL BEARING CAP AND SHIMS  
20 REMOVE AND INSTALL SEAL BEARING BOLTS  
21 REMOVE AND INSTALL SEAL BEARING, PLATE AND GASKET  
22 REMOVE AND INSTALL CRANKSHAFT  
23 REMOVE AND INSTALL PISTON AND ROD ASSEMBLY  
24 REMOVE AND INSTALL PISTON RINGS  
25 REMOVE AND INSTALL WRIST PIN  
26 CLEAN PARTS \* AVG. OF 20 PARTS  
27 INSPECT PARTS \* AVG. OF 14 PARTS  
28 CONNECT, OPERATE AND DISCONNECT VACUUM PUMP  
29 MATERIAL HANDLING

- VT 071 1 OPEN AND CLOSE SERVICE VALVES  
2 REMOVE AND INSTALL SERVICE VALVE BOLTS  
3 REMOVE AND INSTALL VALVE AND GASKET  
4 REMOVE AND INSTALL DRAIN PLUG  
5 DRAIN AND REFILL CRANKCASE  
6 REMOVE AND INSTALL HEAD BOLTS  
7 REMOVE AND INSTALL HEAD AND GASKET  
8 REMOVE AND INSTALL VALVE PLATE SCREW  
9 REMOVE AND INSTALL VALVE PLATE AND GASKET  
10 REMOVE AND INSTALL BASE PLATE BOLTS  
11 REMOVE AND INSTALL BASE PLATE AND GASKET  
12 REMOVE AND INSTALL SEAL PLATE BOLT  
13 REMOVE AND INSTALL FLYWHEEL SHAFT KEY  
14 REMOVE AND INSTALL SEAL PLATE, BELLOWS, AND GASKET  
15 REMOVE AND INSTALL SHAFT COLLAR  
16 REMOVE AND INSTALL THRUST NUT  
17 REMOVE AND INSTALL THRUST BEARING AND WASHER  
18 REMOVE AND INSTALL CONNECTING ROD BOLTS  
19 REMOVE AND INSTALL BEARING CAP AND SHIM  
20 REMOVE AND INSTALL SEAL BEARING BOLTS  
21 REMOVE AND INSTALL SEAL BEARING, PLATE AND GASKET  
22 REMOVE AND INSTALL CRANKSHAFT  
23 REMOVE AND INSTALL PISTON AND ROD ASSEMBLY  
24 REMOVE AND INSTALL PISTON RINGS  
25 REMOVE AND INSTALL WRIST PIN  
26 CLEAN PARTS \* AVG. OF 28 PARTS  
27 INSPECT PARTS \* AVG. 24 PARTS  
28 CONNECT, OPERATE AND DISCONNECT VACUUM PUMP  
29 MATERIAL HANDLING
- VT 072 1 TURN POWER OFF AND ON  
2 CLOSE AND OPEN VALVES  
3 REMOVE AND INSTALL DRAIN PLUG  
4 SECURE WATER LINES IN POSITION  
5 REMOVE AND INSTALL STRAINER SECTION  
6 REMOVE AND INSTALL SHOCK ABSORBER  
7 REMOVE AND INSTALL BOLTS IN HOUSING  
8 REMOVE AND INSTALL HOUSING AND GASKET  
9 REMOVE AND INSTALL MOUNTING BOLTS  
10 LOOSEN AND TIGHTEN COUPLING SCREWS  
11 REMOVE AND INSTALL COUPLING  
12 REMOVE AND INSTALL IMPELLER NUT  
13 REMOVE AND INSTALL IMPELLER  
14 REMOVE AND INSTALL SEALS  
15 REMOVE AND INSTALL BEARING BOLTS  
16 REMOVE AND INSTALL SHAFT BEARINGS  
17 MATERIAL HANDLING
- VT 073 1 REMOVE AND INSTALL CENTRIFUGAL (SQUIRREL CAGE) FAN  
2 REMOVE AND INSTALL DOUBLE CENTRIFUGAL (SQUIRREL CAGE) FANS  
3 REMOVE AND INSTALL CENTRIFUGAL FAN MOTOR  
4 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES  
5 MATERIAL HANDLING

VT 074 1 REMOVE AND INSTALL FAN MOTOR  
2 REMOVE AND INSTALL FAN  
3 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES  
4 MATERIAL HANDLING

VT 075 1 REMOVE AND INSTALL FAN MOTOR  
2 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES  
3 MATERIAL HANDLING

VT 076 1 UNPLUG UNIT  
2 TIE UP ELECTRICAL CORD  
3 RAISE AND LOWER WINDOW  
4 REMOVE WEATHERSTRIPPING  
5 REMOVE FILLER PANEL  
6 LOOSEN LEVELING SCREW  
7 REMOVE UNIT FROM WINDOW  
8 MATERIAL HANDLING  
9 GET, ASCEND, DESCEND, AND ASIDE LADDER  
10 FILL OUT RECORD SHEET

VT 077 1 RAISE AND LOWER WINDOW  
2 REMOVE UNIT FROM CARTON  
3 POSITION UNIT IN WINDOW  
4 INSTALL LEVELING ARM  
5 ADJUST AND TIGHTEN LEVELING SCREW  
6 INSTALL FILLER PANEL  
7 INSTALL WEATHERSTRIPPING  
8 PLUG IN UNIT  
9 CHECK OPERATION  
10 MATERIAL HANDLING

VT 078 1 TURN ON AND OFF WATER GATE VALVE  
2 WALK TOTAL OF THIRTY PACES TO AND FROM VALVE (2 TI  
MES)

VT 079 1 SWITCH ON AND OFF PANEL BOX THROW SWITCH  
2 WALK TOTAL OF THIRTY PACES TO AND FROM VALVE (2 TI  
MES)

VT 080 1 PICK UP , SWEEP DEBRIS & DISPOSE OF  
2 PICK UP LOOSE DEBRIS FROM COOLER SERVICE/REPAIR  
3 WALK BETWEEN UNITS AND DISPOSE OF SERVICE/REPAIR D  
EBRIS...TOTAL OF 500FT ROUND TRIP PER UNIT

VT 081 1 TURN LATCHES 2 EACH AT SAME TIME  
2 REMOVE PANEL AND ASIDE  
3 MOVE PANEL TO POSITION TO INSTALL  
4 ALIGN PANEL AND FORCE INTO PLACE TO INSTALL ROCK T  
O ALIGN  
5 POUND TO ALIGN FIT  
6 TURN LATCHES 2 EACH AT SAME TIME, TO SECURE

VT 082 1 REMOVE WIRE HOLDERS...AV 4 WIRES PER PANEL  
2 REMOVE OLD PAD FROM FRAME PANEL NORMALLY AV 2 PADS  
PER FRAME PANEL  
3 UNWRAP ROLL OF PAD MATERIAL  
4 CUT PAD ...2 SIDES PER PANEL WITH KNIFE AND END (4.  
5 PULLS PER FOOT X 8FT + 2.5FT END = 47.25 OCC) (4  
5 UNWRAP AND POSITION PAD MATERIAL  
6 UNROLL EVAP PAD MATERIAL  
7 INSTALL PAD HOLDER WIRES ...AV 4 WIRES PER PANEL

VT 083 1 SCRAPE LOUVER PANEL PER SQ.FT. (REF.ONLY= AVERAGE  
PANEL SIZE 48"X30"= 10 SQ.FT.) NOTE :THIS OPERATI

VT 084 1 WIRE BRUSH CORROSION (AVERAGE OF 1/20 OCC OR 1 SQ.  
FT.PER 20 SQ.FT. REQUIRE WIRE BRUSHING INSIDE AND  
2 BRUSH PAINT PANEL (USING ALUMINUM PAINT, INSIDE AN  
D OUT AVERAGE OF 20 SQ.FT. )  
3 POSITION AND ASIDE PANEL

VT 085 1 PICK UP COVER (BAG ETC.) TO INSTL.AND REMOVE  
2 COVER MOTOR  
3 PLACE RUBBER BAND TO SECURE AND REMOVE

VT 086 1 WIRE BRUSH SUMP (AVERAGE SUMP = BRUSH 3 TIMES)  
2 PAINT SUMP 2 COATS...PER SQFT... (AVERAGE SUMP=10 S  
Q.FT.)

VT 087 1 SCRAPE INTERIOR SURFACES AND COMPONENTS AS REQUIRE  
D.....(AVERAGES OF OBSERVATIONS INDICATE THAT 5

VT 088 1 WIRE BRUSH CORRORION ON COMPONENTS AND INTERIOR SU  
RFACES .....(OBSERVATIONS INDICATE 1 SQFT OF EACH  
2 BRUSH PAINT PER SQFT... INTERIOR COMPONENTS AND SU  
RFACES. NOTE.. THIS FUNCTION RARELY OBSERVED A

VT 089 1 WALK TOTAL OF 30 PACES TO AND FROM HOSE; COIL AND  
UNCOIL HOSE; CONNECT AND DISCONNECT HOSE

VT 090 1 PICK UP COVER (BAG ETC.) TO INSTL.AND REMOVE  
2 COVER MOTOR  
3 PLACE RUBBER BAND TO SECURE AND REMOVE

VT 091 1 REMOVE AND INSTALL FLOAT... (OBSERVED OCC OF 2 OUT  
OF 10 UNITS)  
2 CLEAN FLOAT VALVE... (OBSERVED OCC OF 3 OUT OF 10  
UNITS)  
3 REPLACE FLOAT VALVE... (OBSERVED OCC OF 3 OUT OF 1  
0 UNITS)  
4 OPERATIONAL CHECK FLOAT MECHANISM... (OBSERVED OCC  
URANCE OF 10 TIMES PER 10 UNITS)  
5 CLEAN OLD FLOAT VALVE.... (OBSERVED OCCURANCE OF 2  
PER 10 UNITS)  
6 INSTALL NEW FITTING IN PIPE FEEDS... (OBSERVED OCC  
URANCE OF 1 OUT OF 20 UNITS)  
7 AJUST FIX BRACKET... (100% OBSERVED OCCURANCE OF  
MINOR ADJUSTMENT)



VT 092 1 INSERT COMPRESSED AIR NOZZLE IN SPIDER OUTLET AND  
TURN ON AND OFF PRESSURE VALVE ALLOWING TIME FOR P

VT 093 1 AJUST FLOW RATE OF SPIDER TUBES

VT 094 1 REMOVE AND INSTALL CAGE BLOWER BELT (OBSERVED 100%  
OF ALL UNITS)  
2 AJUST PULLEY ...BY MOTOR ADJUSTMENT SCREWS.4 EA. T  
IGHTEN AND LOOSEN. (OBSERVED OCCURANCE 1 IN 20 UNI  
3 CHECK ALIGNMENT OF PULLEYS

VT 095 1 TURN ON AND OFF MOTOR AND WALK 5FT TO AND FROM SWI  
TCH  
2 OBSERVE OPERATION, LISTEN, CHECK FOR VIBRATION OR  
OVERHEATING  
3 CHANGE BELT (CHECK BELT FOR WEAR , PROPER TENSION,  
AND ALIGNMENT CHANGE AND AJUST AS REQUIRED.  
4 CONNECT AND DISCONNECT WIRING COVER PLATE 4 SCREWS  
/PLATE  
5 CONNECT AND DISCONNECT WIRING COVER  
6 CONNECT AND DISCONNECT MOTOR  
7 REMOVE OLD INSTALL NEW MOTOR  
8 REMOVE AND REPLACE MOTOR MOUNT SCREWS  
9 LOOSEN AND TIGHTEN PULLEY SET SCREW  
10 REMOVE AND INSTALL PULLEY  
11 AJUST ALIGNMENT  
12 CHECK OPERATION (CHANGE MOTOR OCC AT 1 PER 25 UNIT  
S)  
13 LUBRICATE BEARINGS

VT 096 1 PLUG AND UNPLUG CIRCULATING PUMP (OCC 4 DUE TO NOR  
MAL SEQUENCE OF WORK)  
2 CONNECT AND DISCONNECT PUMP HOSE  
3 LOOSEN AND TIGHTEN HOSE CLAMP (2 CLAMPS)  
4 FEED HOSE AND INSTALL OTHER END  
5 REMOVE AND INSTALL PUMP IN SUMP  
6 OPERATIONAL CHECK BY RUNNING UNIT

VT 097 1 LUBRICATE FAN SHAFT BEARINGS AND MOTOR (2 GREASE F  
ITTINGS AND 2 OIL CUPS PER UNIT  
2 WALK FROM SIDE TO SIDE OF UNIT (15 PACES)

VT 098 1 REMOVE AND REPLACE OVERFLOW TUBE  
2 POSITION PIPE WRENCH  
3 LOOSEN AND TIGHTEN OVER FLOW TUBE  
4 UNPLUG DRAIN WITH WIRE 40 STROKES

VT 099 1 MOVE MATERIALS TO AND FROM TRUCK & BETWEEN UNITS:  
ADDITIONAL MATERIAL HANDLING...(AVERAGE OF 2 TRIPS

- VT 100 1 WALK (2) 200FT TRIPS TO AND FROM THERMOSTAT TO ADJUST WITH TOOLS.  
2 ADJUST THERMOSTAT  
3 CHECK WITH OPERATION PERSONEL FOR INFORMATION WHERE SHORT VERBAL REPLY OR ROUTINE REPORT IS EXPECTED
- VT 101 1 REMOVE AND REINSTALL EVAPORATIVE PAD LOUVER PANEL (OCC FOR 3 PANELS)  
2 REMOVE AND REINSTALL EVAPORATIVE PAD (INCLUDES CUT PAD-MEDIUM WITH KNIFE IN FRAME) 2.5FT X 2.5FT PAD  
3 CLEAN LIME FROM EVAPORATIVE LOUVER PANELS AND ASIDE (2.5FT X 2.5FT = 6.25 SQFT X 3 PANELS = 19 SQFT)  
4 REMOVE CORROSION AND PAINT 2 SIDES OF PANELS  
5 CLEAN SUMP OF EVAPORATIVE COOLER (SCRAPE, WIRE BRUSH, SWEEP)  
6 PAINT SUMP OF EVAPORATIVE COOLER (BRUSH PAINT WITH ASPHALT VARNISH ) THIS UNIT SUMP = 36 SQFT  
7 CLEAN INTERIOR SURFACES AND COMPONENTS FOR LIME DEPOSITS  
8 PAINT INTERIOR SURFACES AND COMPONENTS (THIS UNIT SUMP = 36 SQFT) 1  
9 CLEAN UP DEBRIS AROUND UNIT  
10 TURN ON AND OFF ELECTRICAL POWER AS REQUIRED TO SERVICE UNIT  
11 TURN ON AND OFF WATER AS REQUIRED TO SERVICE UNIT  
12 CONNECT AND DISCONNECT HOSE FOR UNIT  
13 COVER AND UNCOVER COMPONENTS  
14 CHECK AND ADJUST FLOAT  
15 CLEAN/CLEAR , ADJUST SPIDER (48 OUTLETS)  
16 ADJUST FLOW RATE TO SPIDER  
17 CHECK BELT, ADJUST, CHANGE AS REQUIRED  
18 REPLACE MOTOR IF REQUIRED  
19 CLEAN OR REPLACE CIRCULATING PUMP AS REQUIRED  
20 LUBRICATE FAN AND BEARINGS AND MOTOR  
21 DRAIN SUMP AND CLEAN  
22 ADDITIONAL MATERIAL HANDLING  
23 CHECK WITH PERSONEL FILL OUT REPORT, OR CHANGE THE THERMOSTAT AS NECESSARY (HRS.ALLOWED OCCURRED AT 1
- VT 102 1 REMOVE AND REINSTALL EVAPORATIVE PAD LOUVER PANEL (OCC FOR 6 PANELS)  
2 REMOVE AND REINSTALL EVAPORATIVE PAD (INCLUDES CUT PAD-MEDIUM WITH KNIFE IN FRAME) PADS = 12  
3 CLEAN LIME FROM EVAPORATIVE LOUVER PANELS AND ASIDE (2FT X 4FT = 8 SQFT X 6 PANELS = 48 SQFT)  
4 REMOVE CORROSION AND PAINT 2 SIDES OF PANELS  
5 CLEAN SUMP OF EVAPORATIVE COOLER (SCRAPE, WIRE BRUSH, SWEEP)  
6 PAINT SUMP OF EVAPORATIVE COOLER (BRUSH PAINT WITH ASPHALT VARNISH ) THIS UNIT SUMP = 36 SQFT  
7 CLEAN INTERIOR SURFACES AND COMPONENTS FOR LIME DEPOSITS  
8 PAINT INTERIOR SURFACES AND COMPONENTS (THIS UNIT SUMP = 36 SQFT) 1  
9 CLEAN UP DEBRIS AROUND UNIT  
10 TURN ON AND OFF ELECTRICAL POWER AS REQUIRED TO SERVICE UNIT  
11 TURN ON AND OFF WATER AS REQUIRED TO SERVICE UNIT  
12 CONNECT AND DISCONNECT HOSE FOR UNIT  
13 COVER AND UNCOVER COMPONENTS  
14 CHECK AND ADJUST FLOAT  
15 CLEAN/CLEAR , ADJUST SPIDER (48 OUTLETS)  
16 ADJUST FLOW RATE TO SPIDER  
17 CHECK BELT, ADJUST, CHANGE AS REQUIRED  
18 REPLACE MOTOR IF REQUIRED

- 19 CLEAN OR REPLACE CIRCULATING PUMP AS REQUIRED
- 20 LUBRICATE FAN AND BEARINGS AND MOTOR
- 21 DRAIN SUMP AND CLEAN
- 22 ADDITIONAL MATERIAL HANDLING
- 23 CHECK WITH PERSONEL FILL OUT REPORT, OR CHANGE THE  
RMOSTAT AS NECESSARY (HRS.ALLOWED OCCURANCED AT 1

VT 103 1 REMOVE AND REINSTALL EVAPORATIVE PAD LOUVER PANEL  
(OCC FOR 8 PANELS)  
2 REMOVE AND REINSTALL EVAPORATIVE PAD (INCLUDES CUT  
PAD-MEDIUM WITH KNIFE IN FRAME) 8 X 1.5 PADS = 12  
3 CLEAN LIME FROM EVAPORATIVE LOUVER PANELS AND ASIDE  
(2FT X4FT = 8 SQFT X 8 PANELS = 64 SQFT)  
4 REMOVE CORROSION AND PAINT 2 SIDES OF PANELS  
5 CLEAN SUMP OF EVAPORATIVE COOLER (SCRAPE, WIRE BRUSH,  
SWEEP)  
6 PAINT SUMP OF EVAPORATIVE COOLER (BRUSH PAINT WITH  
ASPHALT VARNISH ) THIS UNIT SUMP = 36 SQFT  
7 CLEAN INTERIOR SURFACES AND COMPONENTS FOR LIME DE  
POSITS  
8 PAINT INTERIOR SURFACES AND COMPONENTS (THIS UNIT'S  
SUMP = 36 SQFT) 1  
9 CLEAN UP DEBRIS AROUND UNIT  
10 TURN ON AND OFF ELECTRICAL POWER AS REQUIRED TO SER  
VICE UNIT  
11 TURN ON AND OFF WATER AS REQUIRED TO SERVICE UNIT  
12 CONNECT AND DISCONNECT HOSE FOR UNIT  
13 COVER AND UNCOVER COMPONENTS  
14 CHECK AND ADJUST FLOAT  
15 CLEAN/CLEAR , ADJUST SPIDER (48 OUTLETS)  
16 ADJUST FLOW RATE TO SPIDER  
17 CHECK BELT, ADJUST, CHANGE AS REQUIRED  
18 REPLACE MOTOR IF REQUIRED  
19 CLEAN OR REPLACE CIRCULATING PUMP AS REQUIRED  
20 LUBRICATE FAN AND BEARINGS AND MOTOR  
21 DRAIN SUMP AND CLEAN  
22 ADDITIONAL MATERIAL HANDLING  
23 CHECK WITH PERSONNEL FILL OUT REPORT, OR CHANGE THE  
THERMOSTAT AS NECESSARY (HRS.ALLOWED OCCURRED AT 1

VT 104 1 SCRAPE SUMP (AVERAGE 10 SQ.FT. PER SUMP ) 100% SCR  
APED BUT EXPECTED OCC OF 1 PER 10 UNITS  
2 CLEAN UP DEBRIS FROM SCRAPING OCC 2 TIMES PER UNIT  
- 1 OUT OF 10 UNITS  
3 RINSE SUMP SLUDGE 2 OUT OF 10 UNITS  
4 DRAIN SUMP AFTER RINSE DRAIN TWICE ONCE DELAY ALLO  
WED 2 OUT OF 10 UNITS OBSERVED

VT 105 1 PAINT SUMP OF EVAPORATIVE COOLER (BRUSH PAINT WITH  
ASPHALT VARNISH)

VT 106 1 CLEAN INTERIOR SURFACES AND COMPONENTS FOR LIME DE  
POSITS

VT 107 1 PAINT INTERIOR SURFACES AND COMPONENTS (THIS UNIT  
SUMP = 36 SQ.FT.)

VT 108 1 CLEAN/CLEAR, ADJUST SPIDER (48 OUTLETS) OCCURANCE  
D TO 1 IN 5 UNITS

VT 109 1 REMOVE AND REINSTALL OR OPEN AND CLOSE 2 ACCESS DO  
ORS ON UNIT  
2 CLEAN SUMP (INCLUDES DRAIN , SCRAPE / WIRE BRUSH,  
SWEEP, RINSE SLUGE AND DRAIN SUMP.. HRS. PER DRUM)  
3 CLEAN INTERIOR SURFACES AND COMPONENTS FOR LOOSE P  
AINT/ LIME DEPOSITS [HRS. ALLOWED = FIELD OBSERVAT  
4 CLEAN UP DEBRIS AROUND WORK AREA (INCLUDES PICK UP  
& SWEEP , WALK 200FT BETWEEN UNITS)  
5 TURN ON AND OFF ELECTRICAL POWER (THIS NORMALLY CO  
NSIST OF 2 TIMES PER UNIT SERVICED )  
6 TURN ON AND OFF WATER HRS ALLOWED = OCCURS 2 TIMES  
PER UNIT SERVICED  
7 CONNECT AND DISCONNECT GARDEN HOSE, UNCOIL & COIL,  
TURN ON AND OFF SPIGOT, INCLUDES ALL WALKING (HRS  
8 COVER AND UNCOVER , INTERIOR COMPONENTS TO PREVENT  
DAMAGE DURING RINSING  
9 CHECK AND ADJUST FLOAT  
10 MAKE ELECTRICAL CHECKS AND AJUSTMENTS; CONTROLS, D  
UMP VALVE, RELAYS, SWITCHES.  
11 REPLACE FAN BEARING  
12 REPLACE GEAR MOTOR  
13 REPLACE MOTOR (CHECK MOTOR FOR EXCESSIVE NOISE AND  
OVER HEATING) CHECK 100% AND REPLACE MOTOR 1 IN 2  
14 LUBRICATE FAN MOTOR AND BEARINGS  
15 DRAIN SUMP (OCCURS 1 PER UNIT ; ALTHOUGH AT TIMES  
UNITS ARE DRAINED MORE NO DELAYS OCCUR DUE TO OTHE  
16 ADDITIONAL MATERIAL HANDLING (TRIP TO AND FROM TRU  
CK AND BETWEEN UNITS ; AT EACH LOCATION AS ROOF TO  
17 CHECK WITH OPERATING PERSONEL FOR ANY KNOWN DEFIEC  
ENIES, WHERE A SHORT VERBEL REPLY IS EXPECTED.( IN  
18 PAINT INTERIOR SURFACES AND COMPONENTS OF EVAPORAT  
IVE COOLER (USING BRUSH) AVERAGE OF 5 SQFT PER DRU

VT 110 1 REMOVE AND REINSTALL DOOR PANELS (2 EA).... FOR AC  
CESS FOR REPAIR AND OR SERVICE (UNITS NORMALLY HAV

VT 111 1 SCRAPE SUMP (AVERAGE 2 SQFT PER SUMP).....  
NOTE: SUMPS REQUIRE NO PAINT ..USUALLY COPPER OR S  
2 CLEAN UP DEBRIS FROM SCRAPING (ACCOMPLISHED BY HAN  
D SCOOPING TOOL)  
3 RINSE DRUM SUMP SLUDGE  
4 DRAIN SUMP AFTER RINSE

VT 112 1 SCRAPE INTERIOR SURFACES AND COMPONENTS AS REQUIRE  
D..... (AVERAGES OF OBSERVATIONS INDICATE THAT 5 S

VT 113 1 REMOVE AND INSTALL FLOAT (OBSERVED 2 OUT OF 10 UNITS SERVICED)  
2 CLEAN FLOAT VALVE (OBSERVED 3 OUT OF 10 UNITS)  
3 REPLACE FLOAT VALVE (OBSERVED OCC OF 3 OUT OF 10)  
4 OPERATIONAL CHECK FLOAT MECHANISM (OBSERVED OCC OF 10 OUT OF 10 UNITS SERVICED)  
5 CLEAN OLD FLOAT VALVE... (OBSERVED OCC OF 2 PER 10 UNITS SERVICED)  
6 INSTALL NEW FITTING IN PIPE FEEDS...

VT 114 1 CHECK ELECTRICAL SYSTEM FOR LOOSE CONNECTIONS AND FRAYED WIRES . TIGHTEN AS REQUIRED.  
2 CHECK SWITCHES , CONTROLS , CONTACTS AND RELAYS

VT 115 1 REPLACE FAN BEARING (AIR HANDLER TYPE) IN UNIT -- OCC OBSERVED 2 BEARINGS IN 25 UNITS

VT 116 1 REPLACE GEAR MOTOR ON EVAPORATIVE DRUM OCC OBSERVED 1 IN 20 UNITS

VT 117 1 CHECK MOTOR FOR EXCESS NOISE AND VIBRATION  
2 REPLACE MOTOR OCCURS 1 IN 25 UNITS  
3 CONNECT WIRING AS REQUIRED

VT 118 1 LUBRICATE FAN BEARINGS AND MOTOR

VT 119 1 DRAIN SUMP

VT 120 1 CHECK WITH PERSONEL FOR ANY KNOWN DESCREPENCIES

VT 121 1 4FT ROTATING DRUM EVAPORATIVE COOLING.....  
PAINT INTERIOR SURFACES & COMPONENTS (BRUSH PAINT

VT 122 1 REMOVE AND INSTALL FILTER

VT 123 1 WASH REMOVABLE ALUMINUM FILTER

VT 124 1 CHECK WITH FACILITY PERSONEL (NOTIFY THAT SHUT DOWN PERIOD OR OTHER INFORMATION GIVEN OR OBTAINED.)  
2 WALK FROM TRUCK AND RETURN 150FT TO DOOR TO UNLOCK WALK TO LIGHT AND RETURN 40FT , WALK TO AND FROM  
3 UNLOCK AND LOCK FACILITY SAFTEY LOCK & UNLOCK ELECTRICAL SERVICE  
4 TURN LIGHTS ON AND OFF TEST SERVICE ELECTRICAL FEED SWITCH ON AND OFF  
5 INSPECT AREA FOR ACCESS AND ELECTRICAL SERVICE OUTLETS  
6 CUT OFF POWER  
7 DISCONNECT WIRING HARNESS FROM MOTOR HARNESS CONNECTS 4 PLACES  
8 DISCONNECT MOTOR MOUNTING BOLTS BY BURNING TORCH FROZEN BEYOND HAND REMOVAL OCC 2 BURNS PER BOLT TO  
9 SLING HARNESS TO REMOVE MOTOR UNLOAD FROM STAND, LOAD TO LOWBOY TRUCK  
10 CARRY MATERIALS FROM STORAGE TO LIFT MOTOR  
11 HOIST MOTOR TO TRUCK DOLLY  
12 POSITION LOWBED TRUCK AT LOAD POINT  
13 LOAD MOTOR TO LOW BOY USING CRANE  
14 SECURE LOAD WITH STRAPS TIE 4 PLACES

VT 125 1 CHECK WITH FACILITY PERSONEL (NOTIFY THAT SHUT DOWN PERIOD OR OTHER INFORMATION GIVEN OR OBTAINED.)  
2 WALK FROM TRUCK AND RETURN 150FT TO DOOR TO UNLOCK  
WALK TO LIGHT AND RETURN 40FT , WALK TO AND FROM  
3 UNLOCK AND LOCK FACILITY SAFETY LOCK & UNLOCK ELECTRICAL SERVICE  
4 TURN LIGHTS ON AND OFF TEST SERVICE ELECTRICAL FEED SWITCH ON AND OFF  
5 INSPECT AREA FOR ACCESS AND ELECTRICAL SERVICE OUTLETS  
6 CUT OFF POWER  
7 DISCONNECT WIRING HARNESS FROM MOTOR HARNESS CONNECTIONS 4 PLACES  
8 DISCONNECT MOTOR MOUNTING BOLTS BY BURNING TORCH FROZEN BEYOND HAND REMOVAL OCC 2 BURNS PER BOLT TO  
9 SLING HARNESS TO REMOVE MOTOR UNLOAD FROM STAND, LOAD TO LOWBOY TRUCK  
10 CARRY MATERIALS FROM STORAGE TO LIFT MOTOR  
11 HOIST MOTOR TO TRUCK DOLLY  
12 POSITION LOWBED TRUCK AT LOAD POINT  
13 LOAD MOTOR TO LOW BOY USING CRANE  
14 SECURE LOAD WITH STRAPS

VT 126 1 CHECK WITH FACILITY PERSONEL (NOTIFY THAT SHUT DOWN PERIOD OR OTHER INFORMATION GIVEN OR OBTAINED.)  
2 WALK FROM TRUCK AND RETURN 150FT TO DOOR TO UNLOCK  
WALK TO LIGHT AND RETURN 40FT , WALK TO AND FROM  
3 UNLOCK AND LOCK FACILITY SAFETY LOCK & UNLOCK ELECTRICAL SERVICE  
4 TURN LIGHTS ON AND OFF TEST SERVICE ELECTRICAL FEED SWITCH ON AND OFF  
5 INSPECT AREA FOR ACCESS AND ELECTRICAL SERVICE OUTLETS  
6 CUT OFF POWER  
7 DISCONNECT WIRING HARNESS FROM MOTOR HARNESS CONNECTIONS 4 PLACES  
8 DISCONNECT MOTOR MOUNTING BOLTS BY BURNING TORCH FROZEN BEYOND HAND REMOVAL OCC 2 BURNS PER BOLT TO  
9 SLING HARNESS TO REMOVE MOTOR UNLOAD FROM STAND, LOAD TO LOWBOY TRUCK  
10 CARRY MATERIALS FROM STORAGE TO LIFT MOTOR  
11 HOIST MOTOR TO TRUCK DOLLY  
12 POSITION LOWBED TRUCK AT LOAD POINT  
13 LOAD MOTOR TO LOW BOY USING CRANE  
14 SECURE LOAD WITH STRAPS

VT 127 1 SLING HARNESS TO REMOVE MOTOR UNLOAD FROM STAND, LOAD TO LOWBOY TRUCK  
2 CARRY MATERIALS FROM STORAGE TO LIFT MOTOR  
3 HOIST MOTOR TO TRUCK DOLLY

VT	200	1	EXTERNALLY INSPECT FIRE TUBE BOILER
VT	201	1	EXTERNALLY INSPECT WATER TUBE BOILER
VT	202	1	INTERNALLY INSPECT FIRE TUBE BOILER
VT	203	1	INTERNALLY INSPECT WATER TUBE BOILER
VT	204	1	TEST OPERATION OF FIRE TUBE BOILER
VT	205	1	TEST OPERATION OF WATER TUBE BOILER
VT	206	1	HYDROSTATIC INSPECT FIRE TUBE BOILER
VT	207	1	HYDROSTATIC INSPECT WATER TUBE BOILER
VT	208	1	INTERNALLY INSPECT FIRE TUBE BOILER
		2	EXTERNALLY INSPECT FIRE TUBE BOILER
VT	209	1	INTERNALLY INSPECT WATER TUBE BOILER
		2	EXTERNALLY INSPECT WATER TUBE BOILER
VT	210	1	INTERNALLY INSPECT FIRE TUBE BOILER
		2	EXTERNALLY INSPECT FIRE TUBE BOILER
		3	HYDROSTATIC INSPECT FIRE TUBE BOILER
VT	211	1	INTERNALLY INSPECT WATER TUBE BOILER
		2	EXTERNALLY INSPECT WATER TUBE BOILER
		3	HYDROSTATIC INSPECT WATER TUBER BOILER
VT	212	1	OPEN OR CLOSE TUBE SHEET COMPARTMENT DOOR
VT	213	1	OPEN OR CLOSE FIRE BOX DOOR
VT	214	1	OPEN OR CLOSE ASH PIT DOOR
VT	215	1	OPEN OR CLOSE ACCESS PASS DOOR
VT	216	1	INSTALL OR REMOVE EXPLOSION-PROOF DOOR
VT	217	1	INSTALL OR REMOVE SUPERHEATER DOOR
VT	218	1	REMOVE OR INSTALL DOOR NUTS
		2	REMOVE OR INSTALL DOOR BOLTS
		3	REMOVE OR INSTALL STEEL PLATE
		4	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES * AVG. OF 100-PACES
VT	219	1	OPEN OR CLOSE ACCESS DOOR



VT 220 1 REMOVE OR INSTALL CLEAN OUT DOOR

VT 221 1 REMOVE OR INSTALL PEEPHOLE DOOR

VT 222 1 REMOVE OR INSTALL INSPECTION PLATES (BOLTED)

VT 223 1 REMOVE OR INSTALL STEEL SHEET STRIP

VT 224 1 REMOVE OR INSTALL FIREBOX TOP INSULATION

VT 225 1 REMOVE OR INSTALL FIREBOX TOP

VT 226 1 REMOVE OR INSTALL FIREBRICK

VT 227 1 REMOVE OR INSTALL SHELL PLUG

VT 228 1 REMOVE MANHOLE COVER

VT 229 1 REMOVE HANDHOLE COVER

VT 230 1 INSTALL MANHOLE COVER

VT 231 1 INSTALL HANDHOLE COVER

VT 232 1 PREPARE TO DRAIN BOILER

VT 233 1 FILL BOILER AND INSPECT FOR LEAKS

VT 234 1 ENTER AND LEAVE MANHOLES 7 TIMES  
 2 REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOW  
 ER DRUM  
 3 LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE  
 4 MATERIAL HANDLING  
 5 RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION  
 DISCHARGE  
 6 SCRAPE AND BRUSH 30% OF FIREBOX WALLS AND CEILING  
 (470 SF TOTAL) (141 SF SCRAPED)  
 7 SCRAPE CLEAN 330 SF OF TUBES IN FIREBOX, PASSES AN  
 D VACUUM PASSES  
 8 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
 IES \* AVG. 600-PACES

VT 235 1 ENTER AND LEAVE MANHOLES 8 TIMES  
 2 REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOW  
 ER DRUM  
 3 LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE  
 4 MATERIAL HANDLING  
 5 RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION  
 DISCHARGE  
 6 SCRAPE AND BRUSH 70% OF FIREBOX WALLS AND CEILING  
 (470 SF TOTAL) (329 SF SCRAPED)  
 7 SCRAPE CLEAN 509 SF OF TUBES IN FIREBOX, PASSES AN  
 D VACUUM PASSES  
 8 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
 IES \* AVG. OF 800-PACES

VT 236 1 ENTER AND LEAVE MANHOLES 10 TIMES  
2 REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOW  
ER DRUM  
3 LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE  
4 MATERIAL HANDLING  
5 RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION  
DISCHARGE  
6 SCRAPE AND BRUSH 30% OF FIREBOX WALLS AND CEILING  
(780 SF TOTAL) (234 SF SCRAPED)  
7 SCRAPE CLEAN TUBES IN FIREBOX, PASSES AND VACUUM P  
ASSES (360 SF)  
8 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 900-PACES

VT 237 1 ENTER AND LEAVE MANHOLES 12 TIMES  
2 REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOW  
ER DRUM  
3 LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE  
4 MATERIAL HANDLING  
5 RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION  
DISCHARGE  
6 SCRAPE AND BRUSH 30% OF FIREBOX WALLS AND CEILING  
(1000 SF TOTAL) (300 SF SCRAPED)  
7 SCRAPE CLEAN 631 SF OF TUBES IN FIREBOX, PASSES AN  
D VACUUM PASSES.  
8 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 1000-PACES

VT 238 1 ENTER AND LEAVE MANHOLE 12 TIMES  
2 REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOW  
ER DRUM  
3 REMOVE LOOSE SLAG \* PER WHEELBARROW LOAD  
4 MATERIAL HANDLING  
5 RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION  
DISCHARGE  
6 SCRAPE AND BRUSH 30% OF FIREBOX WALLS AND CEILING  
(1900 SF TOTAL) (570 SF SCRAPED)  
7 SCRAPE CLEAN 794 SF OF TUBES IN FIREBOX, PASSES AN  
D VACUUM PASSES  
8 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 1000-PACES

VT 239 1 KNOCK DOWN SLAG BY REACHING THROUGH EXPLOSION- PRO  
OF DOOR WITH HAMMER  
2 CLEAN SEVEN INSULATION BATS BY SHAKING IN FIREBOX  
3 VACUUM TOP OF FIREBOX  
4 ENTER AND LEAVE MANHOLES 10 TIMES  
5 REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOW  
ER DRUM  
6 LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE  
7 MATERIAL HANDLING  
8 RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION  
DISCHARGE  
9 SCRAPE AND BRUSH 70% OF FIREBOX WALLS AND CEILING  
(780 SF TOTAL) (546 SF SCRAPED)  
10 SCRAPE CLEAN 837 SF OF TUBES IN FIREBOX, PASSES AN  
D VACUUM PASSES  
11 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 900-PACES

- VT 240 1 KNOCK DOWN SLAG BY REACHING THROUGH EXPLOSION- PRO  
OF DOOR WITH HAMMER  
2 CLEAN INSULATION BATS BY SHAKING IN FIREBOX \* AVG.  
OF 9 BATS  
3 VACUUM TOP OF FIREBOX  
4 ENTER AND LEAVE MANHOLES \* AVG. OF 12-TIMES  
5 REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOW  
ER DRUM  
6 LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE  
7 MATERIAL HANDLING  
8 RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION  
DISCHARGE LINE  
9 SCRAPE AND BRUSH 70% OF FIREBOX WALLS AND CEILING  
(1000 SF TOTAL) (700 SF SCRAPED)  
10 SCRAPE CLEAN 1932 SF OF TUBES IN FIREBOX AND PASSE  
S AND VACUUM PASSES  
11 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 1200-PACES
- VT 241 1 KNOCK DOWN SLAG BY REACHING THROUGH EXPLOSION- PRO  
OF DOOR WITH HAMMER  
2 CLEAN INSULATION BATS BY SHAKING IN FIREBOX \* AVG.  
OF 12 BATS  
3 VACUUM TOP OF FIREBOX  
4 ENTER AND LEAVE MANHOLE  
5 REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOW  
ER DRUM  
6 REMOVE LOOSE SLAG \* PER WHEELBARROW LOAD  
7 MATERIAL HANDLING  
8 RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION  
DISCHARGE  
9 SCRAPE AND BRUSH 70% OF WALLS AND CEILINGS IN FIRE  
BOX (1900 SF TOTAL) (1330 SF SCRAPED)  
10 SCRAPE CLEAN 2778 SF OF TUBES IN FIREBOX, PASSES A  
ND VACUUM PASSES  
11 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 1400-PACES
- VT 242 1 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 2-TIMES  
2 CLEAN INSIDE DRUM BY HOSING DOWN  
3 WASH TUBE OPENINGS IN BOILER BY FLUSHING WITH WATE  
R \* AVG. OF 800 TUBE OPENINGS  
4 MATERIAL HANDLING  
5 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 300-PACES
- VT 243 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSE SECTIONS \* AVG. OF 2 HOSE SEC  
TIONS  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 8-TIMES  
4 TURN VALVE ON AND OFF \* AVG. OF 8-TIMES  
5 PUSH 3/4" DIA. TURBINING AIR HOSE IN AND PULL OUT  
60 (1" TO 3" DIA.) TUBES 10FT TO 20FT LONG \* AVG.  
6 REMOVE AND INSTALL TURBINING HEAD  
7 CLEAN INSIDE DRUM BY HOSING DOWN  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 400-PACES

VT 244 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG.OF 9-TIMES  
4 TURN VALVE ON AND OFF \* AVG.OF 9-TIMES  
5 PUSH 3/4" DIA. TURBINING AIR HOSE IN AND PULL OUT  
OF 110 (1" TO 3") TUBES 10FT TO 30FT LONG \* AVG. O  
6 REMOVE AND INSTALL TURBINING HEAD  
7 CLEAN INSIDE DRUM BY HOSING DOWN  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 600-PACES

VT 245 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 10-TIMES  
4 TURN VALVE ON AND OFF \* AVG. OF 9-TIMES  
5 PUSH 1 1/4" DIA. TURBINING AIR HOSE IN AND PULL OU  
T 98 (2 1/4" TO 4" DIA.) TUBES, 30FT TO 50FT LONG  
6 REMOVE AND INSTALL TURBINING HEAD  
7 CLEAN INSIDE DRUM BY HOSING DOWN  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 500-PACES

VT 246 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 11-TIMES  
4 TURN VALVE ON AND OFF \* AVG. OF 10-TIMES  
5 PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF  
141 (2 1/2" TO 4") TUBES, 30FT TO 50FT LONG \* AVG.  
6 REMOVE AND INSTALL TURBINING HEAD  
7 CLEAN INSIDE DRUM BY HOSING DOWN  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 600-PACES

VT 247 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 12-TIMES  
4 TURN VALVE ON AND OFF \* AVG. OF 12-TIMES  
5 PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF  
240 (2 1/2" TO 4") TUBES 30FT TO 50FT LONG \* AVG.  
6 REMOVE AND INSTALL TURBINING HEADS  
7 CLEAN INSIDE DRUM BY HOSING DOWN  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 700-PACES

VT 248 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 15-TIMES  
4 TURN VALVE ON AND OFF \* AVG. OF 14-TIMES  
5 PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF  
321 (2 1/2" TO 4") TUBES 30FT TO 50FT LONG \* AVG.  
6 REMOVE AND INSTALL TURBINING HEAD  
7 CLEAN INSIDE OF DRUM BY HOSING DOWN  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 800-PACES

VT 249 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 20-TIMES  
4 TURN VALVE ON AND OFF \* AVG. OF 18-TIMES  
5 PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF  
475 ( 2 1/2" TO 4") TUBES 30FT TO 50FT LONG \* AVG.  
6 REMOVE AND INSTALL TURBINE HEAD  
7 CLEAN INSIDE DRUM BY HOSING  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 900-PACES

VT 250 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 22-TIMES  
4 TURN VALVE ON AND OFF \* AVG. OF 20-TIMES  
5 PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF  
590 (2 1/2" TO 4") TUBES 30FT TO 50FT LONG \* AVG.  
6 REMOVE AND INSTALL TURBINING HEAD  
7 CLEAN INSIDE DRUM BY HOSING DOWN  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 900-PACES

VT 251 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE  
BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 ENTER AND LEAVE DRUM MANHOLE \* AVG. OF 24-TIMES  
4 TURN VALVE ON AND OFF \* AVG. OF 20-TIMES  
5 PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF  
732 (2 1/2" TO 4") TUBES 30FT TO 50FT LONG \* AVG.  
6 REMOVE AND INSTALL TURBINING HEADS  
7 CLEAN INSIDE DRUM BY HOSING DOWN  
8 SCRAPE 50% OF DRUM INTERIOR  
9 MATERIAL HANDLING  
10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 1000-PACES

VT 252 1 CONNECT AND DISCONNECT HOSE TO BIBS  
2 UNWIND AND WIND HOSE SECTIONS \* AVG. OF 2 HOSE SECTIONS  
3 TURN VALVE ON AND OFF \* AVG. OF 2-TIMES  
4 PUSH WATER HOSE IN AND PULL OUT OF 432 (2") TUBES 20FT LONG  
5 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES \* AVG. OF 800-PACES  
6 ENTER AND LEAVE "SMOKE" BOX \* AVG. OF 2-TIMES  
7 HOSE 150 SF OF FLY ASH OUT OF "SMOKE" BOX  
8 SHOVEL HARDENED FLY ASH OUT OF "SMOKE" BOX \* AVG. OF 4 CU. FT.  
9 MATERIAL HANDLING

VT 253 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 TURN VALVE ON AND OFF \* AVG. OF 2-TIMES  
4 PUSH WATER HOSE IN AND OUT OF 675 (2 1/2"DIA.) TUBES 30FT LONG  
5 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES \* AVG. OF 1000-PACES  
6 ENTER AND LEAVE "SMOKE" BOX  
7 HOSE FLY ASH OUT OF "SMOKE" BOX \* AVG. OF 250 SQ. FT.  
8 SHOVEL HARDENED FLY ASH OUT OF "SMOKE" BOX \* AVG. OF 14 CU. FT.  
9 MATERIAL HANDLING  
10 TURN VALVE ON AND OFF \* AVG. OF 2-TIMES

VT 254 1 CONNECT AND DISCONNECT HOSE BIBS \* AVG. OF 2 HOSE BIBS  
2 UNWIND AND WIND HOSES \* AVG. OF 2 HOSES  
3 TURN VALVE ON AND OFF \* AVG. OF 4-TIMES  
4 PUSH WATER HOSE IN AND PULL OUT OF 1024 (2 1/2") TUBES 30FT LONG  
5 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES \* AVG. OF 1200-PACES  
6 ENTER AND LEAVE "SMOKE" BOX \* AVG. OF 2-TIMES  
7 HOSE FLY ASH OUT OF "SMOKE" BOX \* AVG. OF 200 SQ. FT.  
8 SHOVEL HARDENED FLY ASH OUT OF "SMOKE" BOX \* AVG. OF 11 CU. FT.  
9 MATERIAL HANDLING

VT 255 1 TURN VALVE ON AND OFF  
2 ENTER AND LEAVE PRECIPITATOR OPENING \* AVG. OF 2-TIMES  
3 PUSH AIR HOSE IN AND PULL OUT OF 36 (4") TUBES 8FT TO 12FT LONG  
4 BLOW CLEAN INSIDE PRECIPITATOR COMPARTMENT \* AVG. OF 90 SQ. FT.  
5 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES \* AVG. OF 400-PACES  
6 MATERIAL HANDLING.

VT 256 1 VACUUM SUPERHEATER BOX CONTAINING 250 SF OBTAIN- A  
BLE AREA  
2 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
IES \* AVG. OF 400-PACES  
3 MATERIAL HANDLING  
4 ENTER AND LEAVE MANHOLE  
5 SCRAPE CLEAN SUPERHEATER TUBES IN PASS OVER LOWER  
DRUM \* AVG. OF 377 SQ. FT.

VT 257 1 CLEAN BOILER TUBES 8FT LONG WITH SCRAPER

VT 258 1 CLEAN BOILER TUBES 8FT LONG WITH PNEUMATIC TURBIN  
ING TOOL

VT 259 1 CLEAN BOILER TUBES 12FT LONG WITH SCRAPER

VT 260 1 CLEAN BOILER TUBES 12FT LONG WITH PNEUMATIC TURBIN  
ING TOOL

VT 261 1 CLEAN BOILER TUBES 16FT LONG WITH SCRAPER

VT 262 1 CLEAN BOILER TUBES 16FT LONG WITH PNEUMATIC TURBIN  
ING TOOL

VT 263 1 CLEAN BOILER TUBES 20FT LONG WITH PNEUMATIC TURBIN  
ING TOOL.

VT 264 1 CLEAN TUBE SHEET COMPARTMENT

VT 265 1 CLEAN FIRE BOX

VT 266 1 WASH INTERIOR OF DRUM  
2 INSPECT DRUM  
3 REMOVE MANHOLE COVER  
4 INSTALL MANHOLE COVER  
5 MATERIAL HANDLING

VT 267 1 WASH INTERIOR OF DRUM  
2 INSPECT DRUM  
3 REMOVE MANHOLE COVER  
4 INSTALL MANHOLE COVER  
5 MATERIAL HANDLING

VT 268 1 WASH INTERIOR OF DRUM  
2 INSPECT DRUM  
3 REMOVE MANHOLE COVER  
4 INSTALL MANHOLE COVER  
5 MATERIAL HANDLING

VT 269 1 WASH INTERIOR OF DRUM  
2 INSPECT DRUM  
3 REMOVE MANHOLE COVER  
4 INSTALL MANHOLE COVER  
5 MATERIAL HANDLING

VT 270 1 REMOVE BOILER TUBE UP TO 20FT LONG AND 4" O.D. THROUGH MANHOLE/HANDHOLE WITHOUT CUTTING TUBE INTO SE  
2 INSTALL BOILER TUBE UP TO 20FT LONG AND 4" O.D.

VT 271 1 REMOVE BOILER TUBE UP TO 20FT LONG AND 4" O.D. THROUGH MANHOLE BY CUTTING INTO SMALLER PIECES  
2 INSTALL BOILER TUBE UP TO 20FT LONG AND 4" O.D.

VT 272 1 REMOVE BOILER TUBE UP TO 20FT LONG AND 4" O.D. THROUGH OWN HOLE  
2 INSTALL BOILER TUBE UP TO 20FT LONG AND 4" O.D. THROUGH OWN HOLE

VT 273 1 REMOVE BOILER TUBE UP TO 20FT LONG AND 4" O.D. WITHOUT CUTTING INTO SECTIONS  
2 INSTALL AIR PREHEATER TUBE UP TO 20FT LONG AND 4" O.D. USING HOIST

VT 274 1 REMOVE AND INSTALL TUBE SHEET COMPARTMENT DOOR AND DOOR FRAME

VT 275 1 INSTALL BOILER TUBE UP TO 20FT LONG AND 4" O.D. USING HOIST

VT 276 1 OPEN AND CLOSE SMALL VALVE  
2 OPEN AND CLOSE SMALL VALVE  
3 REMOVE AND INSTALL FLANGE NUT  
4 REMOVE AND INSTALL FLANGE BOLT  
5 REMOVE AND INSTALL GASKET  
6 REMOVE AND INSTALL UNION  
7 REMOVE AND INSTALL PIPE SECTIONS LESS THAN 2" LONG  
8 REMOVE AND INSTALL DRAW NUT  
9 REMOVE AND INSTALL DRAW BOLT  
10 REMOVE AND INSTALL BOILER SECTION  
11 REMOVE AND INSTALL NIPPLE

VT 277 1 CLIMB UP AND DOWN SCAFFOLD  
2 MOVE SCAFFOLD  
3 REMOVE AND INSTALL SCREW \* AVG. OF 10 SCREWS  
4 REMOVE AND INSTALL PANEL  
5 LUBRICATE MOTOR  
6 CLEAN MOTOR  
7 WIRE BRUSH COILS  
8 CLEAN HOUSING  
9 INSPECT FOR LEAKS



VT 278 1 LOWER AND RAISE UNIT WITH BLOCK AND TACKLE  
2 LASH AND UNLASH UNIT  
3 REMOVE AND INSTALL MOUNTING NUTS  
4 REMOVE AND INSTALL MOUNTING BOLTS  
5 REMOVE AND INSTALL UNION \* AVG. OF 4 UNIONS  
6 REMOVE AND INSTALL VALVE  
7 REMOVE AND INSTALL NIPPLE \* AVG. OF 2 NIPPLES  
8 REMOVE AND INSTALL STRAINER  
9 OPEN AND CLOSE VALVE \* AVG. OF 2 VALVES  
10 POSITION UNIT  
11 CLIMB UP AND DOWN SCAFFOLD  
12 MOVE SCAFFOLD  
13 REMOVE AND INSTALL BOLT  
14 REMOVE AND INSTALL SCREW  
15 REMOVE AND INSTALL PANEL  
16 LUBRICATE MOTOR  
17 CLEAN MOTOR  
18 WIRE BRUSH COILS  
19 CLEAN HOUSING  
20 INSPECT FOR LEAKS  
21 MATERIAL HANDLING

VT 279 1 LOWER AND RAISE UNIT WITH BLOCK AND TACKLE  
2 LASH AND UNLASH UNIT  
3 REMOVE AND INSTALL MOUNTING NUTS  
4 REMOVE AND INSTALL MOUNTING BOLTS  
5 REMOVE AND INSTALL UNION \* AVG. OF 4 UNIONS  
6 REMOVE AND INSTALL VALVE  
7 REMOVE AND INSTALL NIPPLE \* AVG. OF 2 NIPPLES  
8 REMOVE AND INSTALL STRAINER  
9 OPEN AND CLOSE VALVE \* AVG. OF 2 VALVES  
10 POSITION UNIT  
11 CLIMB UP AND DOWN SCAFFOLD  
12 MOVE SCAFFOLD  
13 INSPECT FOR LEAKS  
14 LAY OUT STOCK FOR HANGER  
15 CUT STOCK FOR HANGER  
16 DRILL HOLES  
17 INSTALL HANGERS  
18 MATERIAL HANDLING

VT 280 1 LOWER AND RAISE UNIT WITH BLOCK AND TACKLE  
2 LASH AND UNLASH UNIT  
3 REMOVE AND INSTALL MOUNTING NUTS  
4 REMOVE AND INSTALL MOUNTING BOLTS  
5 REMOVE AND INSTALL UNION \* AVG. OF 4 UNIONS  
6 REMOVE AND INSTALL VALVE  
7 REMOVE AND INSTALL NIPPLE \* AVG. OF 2 NIPPLES  
8 REMOVE AND INSTALL STRAINER  
9 OPEN AND CLOSE VALVE  
10 POSITION UNIT  
11 CLIMB UP AND DOWN SCAFFOLD  
12 MOVE SCAFFOLDING  
13 REMOVE AND INSTALL BOLTS  
14 REMOVE AND INSTALL SCREWS  
15 REMOVE AND INSTALL PANEL  
16 REMOVE AND INSTALL MOTOR SUPPORT  
17 REMOVE AND INSTALL MOTOR AND FAN  
18 LUBRICATE MOTOR  
19 CLEAN MOTOR  
20 WIRE BRUSH COILS  
21 CLEAN SMALL PARTS  
22 CLEAN HOUSING  
23 REMOVE AND INSTALL FITTING \*AVG. 2 FITTINGS  
24 CONNECT AND DISCONNECT TEST LINES

25 TURN STEAM ON AND OFF \*AVG. 3 TIMES  
26 REMOVE AND INSTALL NIPPLE \*AVG. OF 2 NIPPLES  
27 REMOVE AND INSTALL REDUCER \*AVG. OF 2 REDUCERS  
28 REMOVE AND INSTALL ELBOW \*AVG. OF 2 ELBOWS  
29 INSPECT FOR LEAKS DURING REPAIR \*AVG. OF 3 LEAKS  
30 INSPECT FOR LEAKS AFTER REPAIR  
31 SOLDER LEAKS IN ANY SIZE HEATING UNIT PIPES AS REQUIRED \* AVG. OF 2 LEAKS  
32 CLEAN AREA AROUND LEAKS \* AVG. OF 2 LEAKS  
33 CUT OFF SECTION OF PIPE  
34 SEAL ENDS OF PIPE  
35 MATERIAL HANDLING

VT 281 1 MATERIAL HANDLING  
2 POSITION FURNACE  
3 CONNECT UNIONS  
4 INSTALL GRILLS AND PANELS \* AVG. OF 4 GRILLS AND P  
ANELS  
5 INSTALL FASTENER  
6 CHECK OPERATION  
7 TURN VALVE ON AND OFF  
8 CONNECT VENT STACK  
9 INSTALL SCREWS \* AVG. OF 2 SCREWS

VT 282 1 TURN VALVE OFF AND ON  
2 DISCONNECT AND CONNECT UNION  
3 REMOVE AND INSTALL PANEL AND GRILL  
4 REMOVE AND INSTALL FASTENER  
5 CLEAN FURNACE AND WALL OPENINGS  
6 CHECK OPERATION

VT 283 1 MATERIAL HANDLING  
2 TURN VALVE ON AND OFF  
3 DISCONNECT AND CONNECT UNION  
4 REMOVE AND INSTALL PANEL AND GRILL  
5 REMOVE AND INSTALL FASTENERS  
6 REMOVE AND INSTALL FURNACE  
7 CHECK OPERATION

VT 284 1 RAISE UNIT WITH BLOCK AND TACKLE  
2 LASH AND UNLASH UNIT  
3 INSTALL MOUNTING BOLTS  
4 INSTALL MOUNTING NUTS  
5 INSTALL UNION \* AVG. OF 4 UNIONS  
6 INSTALL VALVE \* AVG. OF 2 VALVES  
7 INSTALL NIPPLE \* AVG. OF 2 NIPPLES  
8 INSTALL STRAINER  
9 OPEN VALVE \* AVG. OF 2 VALVES  
10 POSITION UNIT  
11 CLIMB UP AND DOWN SCAFFOLD  
12 MOVE SCAFFOLD  
13 LAY OUT STOCK FOR HANGER  
14 CUT STOCK FOR HANGERS  
15 DRILL HOLES  
16 INSTALL HANGERS  
17 INSPECT FOR LEAKS  
18 MATERIAL HANDLING

VT 285 1 OPEN AND CLOSE VALVE  
2 DRAIN OIL  
3 REMOVE AND INSTALL FASTENERS  
4 DISCONNECT AND CONNECT  
5 REMOVE AND INSTALL BURNER  
6 DISASSEMBLE AND ASSEMBLE BURNER PARTS  
7 CLEAN PARTS  
8 CLEAN BURNER  
9 CLEAN FIREBOX  
10 CLEAN HOT AIR DUCT  
11 REMOVE AND INSTALL FILTER  
12 LIGHT BURNER AND ADJUST FLAME  
13 CLEAN MOTOR  
14 LUBRICATE MOTOR  
15 CHECK AND INSPECT

- VT 286 1 REMOVE AND INSTALL BAFFLES  
2 CLEAN INSIDE HEATER  
3 CLEAN OUTSIDE HEATER  
4 TURN OIL TANK VALVE OFF AND ON  
5 DISCONNECT AND CONNECT OIL LINE TO FILTER  
6 REMOVE AND INSTALL NUT ON FILTER CONTAINER  
7 CLEAN FILTER  
8 REMOVE AND INSTALL SCREWS ON CARBURETOR TOP \* AVG.  
OF 4 SCREWS  
9 REMOVE AND INSTALL OIL LINE FROM HEATER TO CARBURE  
TOR  
10 REMOVE AND INSTALL STRAINER  
11 CHECK AND INSPECT  
12 MATERIAL HANDLING
- VT 287 1 REMOVE AND INSTALL SCREW IN PIPE  
2 REMOVE AND INSTALL PIPE FROM HEATER TO CHIMNEY  
3 CARRY PIPE TO BE CLEANED AND RETURN  
4 CLEAN PIPE  
5 CLIMB UP AND DOWN LADDER  
6 CLEAN CHIMNEY  
7 REMOVE AND INSTALL BAFFLES  
8 CLEAN INSIDE HEATER  
9 CLEAN OUTSIDE HEATER  
10 TURN OIL TANK VALVE OFF AND ON  
11 DISCONNECT AND CONNECT OIL LINE TO FILTER  
12 REMOVE AND INSTALL NUT ON FILTER CONTAINER  
13 CLEAN FILTER  
14 REMOVE AND INSTALL FOUR SCREWS ON CARBURETOR TOP  
15 REMOVE AND INSTALL OIL LINE FROM HEATER TO CARBURE  
TOR  
16 REMOVE AND INSTALL STRAINER  
17 REMOVE AND INSTALL OIL LINE FROM HEATER TO OIL STO  
RAGE  
18 CHECK AND INSPECT  
19 MATERIAL HANDLING
- VT 288 1 MATERIAL HANDLING  
2 POSITION HEATER  
3 CONNECT UNIONS  
4 CHECK OPERATION  
5 TURN VALVE ON AND OFF  
6 CONNECT VENT STACK  
7 ATTACH SCREWS \* AVG. OF 2 SCREWS  
8 FILL TANK
- VT 289 1 MATERIAL HANDLING  
2 DISCONNECT AND CONNECT UNION  
3 REMOVE AND INSTALL HEATER  
4 TURN VALVE ON AND OFF  
5 DRAIN AND FILL 30-GALLON TANK  
6 CHECK OPERATION

- VT 290 1 CLOSE AND OPEN VALVE  
2 CLEAN AND ADJUST MAIN BURNER, PILOT AND THERMO- COUPLE  
3 CLEAN COMBUSTION CHAMBER AND BOTTOM OF TANK  
4 FLUSH OUT HEATER  
5 CHECK OPERATION OF SAFETY PILOT  
6 LIGHT MAIN BURNER AND ADJUST FLAME  
7 ASCERTAIN THAT HEATER CUTS OFF AT CORRECT TEMPERATURE  
8 CHECK OPERATION OF RELIEF VALVE
- VT 291 1 DISCONNECT AND CONNECT ELECTRIC PLUG FROM RECEPTACLE  
2 REMOVE AND INSTALL TOP FRONT COVER  
3 TURN GAS VALVE OFF AND ON  
4 REMOVE AND INSTALL SCREWS  
5 REMOVE BOTTOM FRONT COVER  
6 REMOVE AND INSTALL FILTER  
7 DISCONNECT AND CONNECT THERMALCOUPLING AT MAIN LINE  
8 DISCONNECT AND CONNECT PILOT COUPLING AT MAIN LINE  
9 REMOVE AND INSTALL SCREWS TO PILOT LIGHT ASSEMBLY  
10 REMOVE AND INSTALL PILOT LIGHT ASSEMBLY  
11 LOOSEN AND TIGHTEN TWO THUMB SCREWS  
12 REMOVE AND INSTALL BURNERS  
13 KNOCK SOOT FROM SIDE WALLS  
14 VACUUM AND WIPE UNIT  
15 OIL MOTOR AND FAN  
16 DISCONNECT AND CONNECT SOLENOID VALVE NUT  
17 REMOVE AND INSTALL VALVE FROM SOLENOID  
18 CLEAN VALVE AND WIPE WITH OIL  
19 REMOVE AND INSTALL PILOT LINE  
20 REMOVE AND INSTALL FITTING TO PILOT LIGHT NOZZLE  
21 CLEAN NOZZLE  
22 REPLACE BOTTOM FRONT COVER  
23 LIGHT PILOT AND ADJUST  
24 TURN ON BURNERS AND CHECK FOR FAN TO COME ON
- VT 292 1 REMOVE AND INSTALL SCREWS  
2 REMOVE AND INSTALL FRONT COVER  
3 DISCONNECT AND CONNECT ELECTRIC PLUG FROM RECEPTACLE  
4 REMOVE AND INSTALL MOUNTING BOLTS AND NUTS \* AVG. OF 2 BOLTS AND NUTS  
5 REMOVE AND INSTALL FRAME AND BLOWER ASSEMBLY  
6 REMOVE AND INSTALL FILTER  
7 VACUUM AND WIPE INSIDE UNIT  
8 VACUUM AND WIPE BLOWER ASSEMBLY  
9 LUBRICATE BLOWER \* AVG. OF 2 PLACES

VT 293 1 REMOVE AND INSTALL SCREWS  
 2 REMOVE AND INSTALL FRONT COVER  
 3 TURN MOTOR OFF AND ON WITH KEY  
 4 LOOSEN AND TIGHTEN SCREWS \* AVG. 4 SCREWS  
 5 REMOVE AND INSTALL COVER PLATES \* AVG. OF 2 COVER  
 PLATES  
 6 REMOVE AND INSTALL THUMB SCREWS TO TOP COVER \* AVG  
 . OF 4 SCREWS  
 7 REMOVE AND INSTALL TOP COVER  
 8 REMOVE AND INSTALL ELECTRIC PLUG FROM RECEPTACLE  
 9 REMOVE AND INSTALL NUTS AND BOLTS ON BLOWER UNIT \*  
 AVG. OF 2 NUTS AND BOLTS  
 10 REMOVE AND INSTALL BLOWER UNIT \* AVG. OF 2-MEN  
 11 INSPECT BLOWER, ALL MOVING PARTS AND SURROUNDING A  
 REA  
 12 REMOVE AND INSTALL TWO BRACKET SCREWS  
 13 TURN MOTOR TO OIL AND RETURN  
 14 REMOVE AND INSTALL TWO OIL PLUG COVER SCREWS  
 15 OIL MOTOR AT TWO LOCATIONS  
 16 REMOVE AND INSTALL BOTTOM FILTER  
 17 REMOVE AND INSTALL 3 THUMB SCREWS TO OUTSIDE VENT  
 18 REMOVE AND INSTALL PLATE TO VENT  
 19 REMOVE AND INSTALL FILTER TO OUTSIDE VENT  
 20 VACUUM AND WIPE INSIDE UNIT, BLOWER, AND COVERS  
 21 OIL DAMPER AND MOVING PARTS

VT 294 1 REMOVE AND INSTALL SCREWS IN THERMOSTAT COVER TO R  
 EMOVE COVER \* AVG. OF TWO SCREWS  
 2 REMOVE AND INSTALL THERMOSTAT COVER  
 3 REMOVE AND INSTALL COVER SCREW TO NEEDLE VALVE  
 4 OPEN AND CLOSE NEEDLE VALVE  
 5 INSTALL AND REMOVE BRANCH LINE AIR GAUGE  
 6 ADJUST THERMOSTAT  
 7 REMOVE AND INSTALL PIN VALVE SET SCREW  
 8 ADJUST SET SCREW  
 9 REMOVE PIN VALVE GAUGE  
 10 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
 IES  
 11 REMOVE AND INSTALL SCREWS IN COVER \* AVG. OF TWO S  
 CREWS  
 12 REMOVE AND INSTALL COVER PLATE  
 13 REMOVE AND INSTALL SCREWS TO REHEAT AND VENTILATIN  
 G THERMOSTAT \* AVG OF TWO SCREWS  
 14 REMOVE AND INSTALL THERMOSTAT COVER  
 15 REMOVE AND INSTALL SCREW IN FILTER LINE  
 16 REMOVE AND INSTALL AIR GAUGE IN LINE  
 17 OPEN AND CLOSE VALVE TO BLEED AIR LINE  
 18 BLEED AIR LINE \* AVERAGE OF 15 SECONDS TO BLEED LI  
 NE FROM TIME \* STUDY  
 19 ADJUST GAGE  
 20 WAIT FOR UNIT TO COOL  
 21 PLACE THERMOMETER ON TOP OF UNIT AND READ TEMPERAT  
 URE  
 22 ADJUST UNIT BY TURNING SCREW  
 23 WAIT FOR UNIT TO COOL  
 24 PLACE THERMOMETER ON TOP OF UNIT AND READ TEMPERAT  
 URE  
 25 WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUT  
 IES

- VT 295 1 CLEAN FUEL OIL FILTER, RENEW ELEMENT AND GASKET  
2 CLEAN, INSPECT, ADJUST ELECTRODE/NOZZLE ASSEMBLY  
3 SERVICE FUEL UNIT - - INCLUDES FUEL OIL PUMP, FORCED DRAFT BLOWER AND MOTOR  
4 SERVICE FURNACE FIREBOX AND FLUE  
5 SERVICE FURNACE STACK SWITCH  
6 SERVICE AIR CIRCULATION FAN AND MOTOR - - UP TO 1 HP  
7 CONDUCT FURNACE OPERATIONAL CHECK
- VT 296 1 LAY OUT AND RETURN TO STORAGE REQUIRED EQUIPMENT  
2 SET UP PRELIMINARY EQUIPMENT FOR TEST  
3 SET UP AND SECURE SOLU-BRIDGE GAUGE  
4 PREPARE DILUTED STANNOUS CHLORIDE SOLUTION  
5 FILL USABLE SIZE CONTAINERS WITH CONTENTS FROM LARGE CONTAINER  
6 PERFORM TEST TO DETERMINE SOLID CONTENT OF SAMPLE  
7 PERFORM TEST TO DETERMINE PHOSPHATE CONTENT OF SAMPLE  
8 PERFORM TEST TO DETERMINE TANNIN CONTENT OF SAMPLE  
9 PERFORM TEST TO DETERMINE PRESENCE OF CAUSTICITY IN SAMPLE  
10 WASH FRAGILE EQUIPMENT USED IN ANALYZING BOILER WATER SAMPLES AND CLEAN UP WORK AREA, COUNTER, AND SINK  
11 PREPARE BOILER WATER SAMPLES TO MAIL TO LABORATORY 1-TIME PER MONTH
- VT 297 1 WALK AROUND WORK AREA \* AVG. 20-PACES  
2 CLOSE/CHECK CLOSED FUEL OIL SHUT-OFF VALVE AND OPEN  
3 OBTAIN AND ASIDE WIPING CLOTH  
4 UNCOUPLE AND ASSEMBLE FILTER HOUSING AND BASE  
5 DISENGAGE AND FIT UP FILTER HOUSING--FILTER ELEMENT INCLUDED  
6 REMOVE AND DISCARD FILTER GASKET  
7 REMOVE AND DISCARD FILTER ELEMENT  
8 DUMP REMAINING OIL FROM FILTER HOUSING  
9 WIPE FILTER HOUSING CLEAN WITH FILTER CLOTH  
10 OBTAIN BOX CONTAINING NEW FILTER ELEMENT AND GASKET  
11 OPEN BOX AND REMOVE FILTER ELEMENT AND GASKET  
12 INSERT NEW FILTER ELEMENT IN HOUSING  
13 PLACE NEW GASKET ON FILTER HOUSING  
14 WIPE UP SPILLED FUEL OIL  
15 INSPECT FILTER FOR LEAKS  
16 WIPE TOOL WITH CLOTH \* AVG. 2-TOOLS
- VT 298 1 WALK AROUND WORK AREA \* AVG. 20-PACES  
2 OBTAIN AND ASIDE WIPING CLOTH  
3 REMOVE AND INSTALL SCREW \* AVG. 2-SCREWS  
4 REMOVE AND INSTALL ACCESS PANEL OR SWING HINGED TRANSFORMER ASIDE AND BACK IN PLACE  
5 BREAK AND MAKE UP NOZZLE LINE CONNECTION (FERRULE OR FLARE NUT)  
6 REMOVE AND INSTALL HOLD-DOWN DEVICE FOR NOZZLE LINE (LOCK NUT, SET SCREW, LOCK LEVER, ETC.)  
7 DETACH AND ATTACH ELECTRODE LEAD (SPRING CLIP) \* 2 -LEADS/ASSEMBLY, AVG. OCCUR. 1-TIME OUT OF 2  
8 MANEUVER ELECTRODE/NOZZLE ASSEMBLY OUT OF AND INTO AIR TUBE  
9 REMOVE AND INSTALL BURNER NOZZLE (WITH STRAINER)  
10 EXTRACT AND INSERT BURNER NOZZLE STRAINER  
11 INSPECT NOZZLE AND NOZZLE STRAINER  
12 CLEAN NOZZLE WITH WIRE BRUSH \* 1-TIME OUT OF 2  
13 WASH NOZZLE STRAINER WITH FUEL OIL

14 CLEAN ELECTRODE WITH EMORY CLOTH \* 2-ELECTRODES  
15 INSPECT ELECTRODES FOR PROPER GAP AND CLEARANCE  
16 ADJUST ELECTRODES \* 2-ELECTRODES/ASSEMBLY, AVG. 2-  
ADJUSTMENTS/ ELECTRODE, AVG. 1-TIME OUT OF 2  
17 WIPE TOOLS WITH CLOTH  
18 WIPE UP SPILLED FUEL OIL



VT 299 1 WALK AROUND WORK AREA \* 20-PACES, AVG. 1-TIME OUT  
OF 5

2 OBTAIN AND ASIDE WIPING CLOTH

3 REMOVE AND INSTALL CAP SCREW (PUMP HEAD) \* 8-CAP S  
CREWS/PUMP HEAD

4 DISASSEMBLE AND FIT UP PUMP HEAD

5 REMOVE PUMP HEAD GASKET

6 REMOVE STRAINER FROM PUMP HEAD

7 OBTAIN CARTON CONTAINING NEW STRAINER AND GASKET \*  
AVG. 1-TIME OUT OF 5

8 REMOVE STRAINER AND GASKET FROM CARTON \* 1-STRAINE  
R & 1-GASKET, AVG. 1-TIME OUT OF 5

9 CLEAN EXISTING STRAINER AND GASKET \* AVG. 4-TIMES  
OUT OF 5

10 INSTALL STRAINER IN PUMP HOUSING

11 PLACE GASKET ON PUMP HOUSING

12 LUBRICATE PUMP/FORCED DRAFT BLOWER MOTOR

13 WIPE UP SPILLED OIL

  

VT 300 1 WALK AROUND WORK AREA \* 200-PACES

2 OBTAIN AND ASIDE SMALL HAND TOOL

3 OBTAIN AND ASIDE WIPING CLOTH

4 REMOVE AND INSTALL SCREW (ACCESS PANEL) \* AVG. 4-S  
CREWS/PANEL

5 LIFT OFF ACCESS PANEL AND PLACE PANEL IN POSITION

6 REMOVE AND INSTALL NUT (FIREBOX PORT COVER) \* 2-PO  
RT COVERS, 2-NUTS/COVER

7 REMOVE AND INSTALL FLUE CLEAN-OUT COVER, 8 INCH DI  
A., FRICTION FIT

8 ATTACH AND REMOVE VACUUM CLEANER HOSE

9 CONNECT AND DISCONNECT VACUUM CLEANER ELECTRICAL C  
ORD

10 LOOSEN ATTACHED RESIDUE IN FLUE WITH SCRAPER \* AVG  
. 2-SQ. FT.

11 SCOOP OUT AMASSED MATERIAL IN FLUE \* AVG. 3-SCOOPS

12 START AND STOP VACUUM CLEANER \* AVG. 4-TIMES/JOB

13 VACUUM OUT REMAINDER OF LOOSE RESIDUE IN FLUE

14 LOOSEN ATTACHED RESIDUE IN FIREBOX WITH SCRAPER \*  
AVG. 4-SQ.FT.

15 SCOOP OUT AMASSED MATERIAL IN FIREBOX \* AVG. 6-SCO  
OPS

16 VACUUM OUT REMAINDER OF LOOSE MATERIAL IN FIREBOX

17 CLEAN PORT COVERS \* 2-PORT COVERS

18 CUT ASBESTOS ROPE TO LENGTH FOR FIREBOX PORT COVER  
GASKET \* 2-COVERS, AVG. 1-TIME OUT OF 4

19 FIT FIREBOX PORT COVER GASKET \* 2-PORT COVERS, 6-F  
T. TOTAL LENGTH \*\* AVG. 1-TIME OUT OF 4

20 WIPE HAND TOOL WITH CLOTH

- VT 301 1 OBTAIN AND ASIDE SMALL HAND TOOL  
2 OBTAIN AND ASIDE WIPING CLOTH  
3 REMOVE AND INSTALL SCREW (STACK SWITCH COVER) \* AVG. 2-SCREWS/SWITCH  
4 REMOVE AND INSTALL STACK SWITCH COVER  
5 CHECK MOVEMENT OF RELAY MANUALLY \* 2-RELAYS/SWITCH  
6 INSPECT CONTACTS, WIRING, CONNECTIONS AND RELAYS FOR OR UNSATISFACTORY CONDITIONS  
7 LOOSEN AND TIGHTEN STACK SWITCH MOUNTING SCREW  
8 REMOVE STACK SWITCH FROM MOUNTING  
9 CLEAN SENSING ELEMENT WITH WIRE BRUSH  
10 INSPECT SENSING ELEMENT FOR UNSATISFACTORY CONDITION  
11 INSTALL SWITCH IN MOUNTING  
12 WIPE TOOLS WITH CLOTH
- VT 302 1 WALK AROUND WORK AREA \* AVG. 40-PACES  
2 OBTAIN AND ASIDE SMALL HAND TOOL  
3 OBTAIN AND ASIDE WIPING CLOTH  
4 TURN FURNACE SWITCH OFF AND ON \* AVG. 3-TIMES/JOB  
5 UNLATCH AND LATCH ACCESS PANEL  
6 REMOVE AND INSTALL ACCESS PANEL (NO FASTENERS)  
7 VISUALLY INSPECT INTERIOR OF CABINET, FAN, FAN MOTOR, ETC.  
8 ROTATE FAN AND MOTOR BY HAND AND CHECK CONDITION OF BELT  
9 INSPECT, CLEAN, LUBRICATE AND ADJUST FAN MOTOR  
10 LUBRICATE FAN BEARINGS  
11 CHECK CONDITION OF FAN BEARING \* 2-BEARINGS  
12 WIPE DOWN CABINET INTERIOR WITH CLOTH \* AVG. 4-SQ. FT.
- VT 303 1 WALK AROUND WORK AREA \* AVG. 30-PACES  
2 OBTAIN AND ASIDE SMALL HAND TOOL  
3 OPEN AND CLOSE FUEL OIL SHUT OFF VALVE  
4 TURN FURNACE SWITCH/CIRCUIT BREAKER OFF AND ON  
5 LOOSEN AND TIGHTEN STACK SWITCH SET SCREW  
6 REMOVE STACK SWITCH FROM MOUNTING  
7 INSTALL STACK SWITCH IN MOUNTING  
8 OBSERVE FLAME FOR PROPER BURN  
9 ADJUST FLAME \* AVG. 1-TIME OUT OF 4  
10 INSURE STACK SWITCH CYCLES FURNACE WITHIN PROPER TIME FRAME \* AVG. 90 SEC./CYCLE  
11 RESET STACK SWITCH (PUSH BUTTON)
- VT 304 1 REMOVE BOILER TUBE UP TO 20FT LONG AND 4" O.D. THROUGH MANHOLE/HANDHOLE WITHOUT CUTTING TUBE INTO SECTIONS  
2 INSTALL BOILER TUBE UP TO 20FT LONG AND 4" O. D.  
3 MOVE BOILER TUBE UP TO 20FT LONG AND 4" O. D. TO APPROXIMATE LOCATION WITH USE OF HOIST